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The California Public Utilities Commission ■ 1979–1980 Annual Report

"....as the cost of conventional fuels have risen, the alternative of conservation and increased efficiency has become highly cost effective." JOHN BRYSON. "energy efficiency .... has a very weak constituency." DONALD HAWES. "Does financing stimulate conservation investment? The answer is "Hell, yes!" C. P. DAVENPORT. "Social benefits .... it would include the benefit of not having a world war from an oil crisis ." LEONARD ROSS. ".... the best way to protest our standard of living is through energy conservation." DONALD VERGIN. "Right now, the automobile firms are saving energy at an alarming rate. It was unintentional — I assure you." JAY KENNEDY. ".... an electric car can't compete with a really efficient fuel car ...." AMORY LOVINS. "... people in the airport had signs saying that nuclear power plants were built better than Jane Fonda, to which I could respond, but will not — in the interest of time." TOM HAYDEN.

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PUBLIC UTILITIES COMMISSION
State of California

ANNUAL REPORT

1979–80 Fiscal Year

July 1, 1979
to
June 30, 1980

Public Utilities Commission
STATE OF CALIFORNIA

December 1, 1981

THE HONORABLE EDMUND G. BROWN JR.
GOVERNOR OF CALIFORNIA

We herewith submit the annual report of the California Public Utilities Commission containing the documented and historical record of the 1979–80 fiscal year activities of the commission, as required by Section 316 of the Public Utilities Code.

The report covers the activities of the Commission in a year of continuing cost pressures on energy consumers and utilities alike. The Commission has responded with a variety of conservation and other regulatory initiatives which we described in detail in this report.

Respectfully submitted,

John E. Bryson

JOHN E. BRYSON
President

Richard D. Gravelle

RICHARD D. GRAVELLE
Commissioner

Leonard M. Grimes Jr

LEONARD M. GRIMES, Jr.
Commissioner

Vernon L. Sturgeon

VERNON L. STURGEON
Commissioner

Claire T. Dedrick

CLAIRE T. DEDRICK
Commissioner

TABLE OF CONTENTS

Page

Letter of Transmittal 3
Introduction 7
The Commission 9
The Executive Director 11
Energy Efficiency and the Utilities: New Directions 13
Legal Division 21
Division of Administrative Law Judges 22
Management Services Division 25
Southern California Office 27
Communications Division 28
Revenue Requirements Division 34
Utilities Division 40
  Electric Branch 41
  Gas Branch 43
  Water—Hydraulics Branch 47
  Energy Conservation Branch 48
  Environmental Impact Branch 52
Utilities Statistics 60
Transportation Division 86
  Passenger Operations 88
  Railroad Operations and Safety 94
  Freight Economics 103
  Compliance and Enforcement 108
Appendices
  Utilities and Carriers Under PUC Jurisdiction 111
  Regulation of Public Utilities and Transportation Companies in the State of California 113

Chart Titles

Major Electric Utilities
  Electric Sales—Other Than Resale 68
  Average Electric Usage Per Customer 70
Major Gas Utilities
  Gas Sales—Other Than Resale 71
  Average Gas Usage Per Customer 72
Fuel Cost as a Percentage of Total Operation and Maintenance Expense, Electric Generation 73
Distribution of Gross Operating Revenues
  Large Telephone Utilities in California 74
  Large Electric Utilities in California 75
  Large Gas Utilities in California 76
  Large Water Utilities in California 77
Growth of Large Water Utilities 78
Growth of Large Electric Utilities 78
Growth of Large Gas Utilities 79
Growth of Large Telephone Utilities 79
Trend of Monthly Bills
  Residence Telephone Service 80
  Residence Electric Service 81
  Residence Gas Service 82
California Utilities Natural Gas Flows 83
Environmental Reviews of Proposed Projects 84
Fuel Oil Portion of Mix Needed to Generate 1m KWH 85

INTRODUCTION

The California Public Utilities Commission was created as the California Railroad Commission by amendment to the State Constitution on October 10, 1911. Implementing legislation, which clarified its duties and powers, became effective in 1912.

The commission is made up of five members appointed by the Governor, with the consent of the Senate, for terms of six years. The appointments are made at different times so that a majority of the commission at all times will be experienced in carrying out its duties and responsibilities. One of the five is elected annually as president by the other commissioners and presides at decision-making conferences and other formal sessions.

The Executive Director takes the necessary steps to ensure that matters before the commission are moved efficiently and expeditiously, and to that end he organizes and supervises the activities of the staff. All final decisions, however, are made by a majority of the commission's five members.

Present extensive regulatory control over public utilities stems from the adoption of the sweeping constitutional amendments by the state's electorate. The creation of an independent regulatory commission was chosen as preferable to earlier attempts to regulate by direct legislation, by appointive state board, and by elected commissioners.

Because of its mandate, which is to assure the furnishing of adequate service to all public utility customers, the PUC was delegated broad powers of control over all privately-owned public utilities. The commission combines both quasi-legislative and quasi-judicial functions in a single agency.

The constitution not only safeguards the commission's basic authority by direct grant of power, but it further provides flexibility and responsiveness by allowing the Legislature to expand or otherwise facilitate the exercise of these organic powers to meet changing needs in areas of energy or other basic services. As such, the commission is structured as an effective decision maker.

The Public Utilities Act of 1912 gave the commission jurisdiction over gas, electric, telephone, telegraph, heat and water corporations, as well as over common carriers by rail of passengers and freight. Express corporations, wharfingers, and others were included in the 1912 act. Legislation modified and extended the commission's jurisdiction from time to time, and this legislation all was codified in the Public Utilities Code, effective in 1951.

As the highway carrier industry grew, it was brought under commission jurisdiction by supplemental statutes. A 1917 law covered buses and common carrier trucks. In 1935 additional truckers were brought under commission regulation by the Highway Carriers' Act and the City Carriers' Act. The Household Goods, Carriers' Act was passed in 1951 and the Cement Carriers' Act in 1963.

The widened scope of its regulatory functions resulted in changing the name from the Railroad Commission to the Public Utilities Commission by constitutional amendment in 1946.

The California Public Utilities Commission regulates the rates and service of more than 1,500 privately owned utilities and transportation companies. These include gas, electric, water, telephone and telegraph companies, railroads, airlines, buses, trucks and vessels transporting passengers or freight in intrastate commerce, warehousemen, wharfingers and pipeline companies.

There are also more than 20,000 highway carriers which have permits to transport property for the public for hire.

Safety of the public and employees of utilities and railroads is of major concern to the Commission. Safety of overhead power and communication lines, substations and gas storage facilities are under commission jurisdiction. It is charged with supervision of safety at railroad-highway grade crossings and with safe operations of freight and passenger trains.

To provide the public with monetary protection in the event of accidents, the Public Utilities Code requires that regulated truck operators who haul for the public for hire must maintain specified amounts of public liability and property damage insurance. If their insurance lapses their authority to operate is canceled.

Minimum liability and property damage insurance also is required for all aircraft in California hauling passengers or freight for hire. The insurance must be effective even though federal regulations with regard to operations may have been violated.

Commission authorization is required for the transfer or encumbrance of utility property; any issue of stocks, bonds, or other securities by a regulated utility; certain construction or extension of plants or other facilities. The commission requires uniform accounting and uniform annual reports. All annual reports are on file and open to public inspection.

Of paramount importance among the commission's duties is its constitutional authority to fix utility rates. It is important because of the tremendous economic consequences of crucial issues in the energy sector. The major electric and gas corporations under the PUC's jurisdiction have plant valued in excess of $16 billion. Decisions of these utilities involving additions or retirement of plant, choice of fuel supply and related service requirements present a matrix of features—such as availability, environmental desirability and affordability.

The commission's ratesetting function provides an essential forum for examining various energy options into decisions which are economically fair to both regulated utilities and their ratepayers.

The charges Californians pay for transportation and utility service result from rates authorized or permitted by the Public Utilities Commission. Acting in behalf of the public the commission holds utility rates at the lowest level which will afford utilities an opportunity to earn "just and reasonable" returns upon their original investments (minus depreciation) in property devoted to public use.

Actually, regulated utilities operate at cost, plus the rate of return allowed by the commission.

Present rates, having been so established, are presumed to be fair and reasonable. If any utility files an application for an increase in rates, the burden of proof always is upon the utility to show that additional revenue is necessary to provide a "fair and reasonable return."

Customers also may initiate hearings on either rates or service by filing a formal complaint. Any complaint as to the reasonableness of rates or charges of gas, electric, water or telephone corporations must be signed by the mayor or president or chairman of the board of trustees, or a majority of the council, or by not fewer than 25 consumers or prospective consumers or purchasers of service.

The commission also may order an investigation on its own motion at any time that consideration of the rates or service of a regulated utility would appear to be in the public interest.

Formal petition also may be made to the commission in matters such as allocations of costs for grade crossing protection, modification of orders relating to safety regulations or changes in other regulations. Public hearings usually are ordered.

The commission may decide certain proceedings *ex parte* when no public hearing is deemed necessary.

After public hearings, which are presided over by a Commissioner or an Administrative Law Judge sitting for a Commissioner, a case is taken under submission for decision by the entire commission. A decision signed by three Commissioners becomes the official action of the commission. A Commissioner who disagrees with the majority decision may issue a dissent which becomes a part of the official record.

After an application for a rate increase is filed with the commission, a public hearing is scheduled and announced so that everyone interested may attend. Hearings, in a major case, may require several days, extending over a period of weeks, with intervals between to allow all interested parties time to study exhibits and testimony presented and to prepare their own testimony.

The applicant first states the reasons for requesting an upward adjustment of rates. Company officials testify under oath at a public hearing, which anyone may attend, as to the utility's investment, its actual and requested earnings, its revenues and operating expenses. The United States Supreme Court has ruled that income taxes must be considered a lawful operating expense of a regulated utility and the California Public Utilities Commission must abide by that decision.

Company witness may be cross-examined by the public or its representatives and by commission attorneys, acting in the public interest. Commission staff experts will challenge any statement or company claim they do not believe justified or accurate.

Then, or at a later hearing, all interested parties will be heard. Public representatives may offer testimony by their own expert witnesses, who may be cross-examined by any of the parties in interest. Anyone with information which has a bearing on the case may testify.

The commission also assigns to its staff experts the important rule of making an intensive study of all factors involved in a particular application and presenting factual testimony during the public hearings. These engineers, accountants, and rate experts present evidence and may be crossexamined by all parties in interest. Commission staff attorneys are assigned to major cases to act as advocates of the public interest. They assist in presenting staff testimony, may cross-examine witnesses to bring all the facts before the commission, and generally aid in developing a complete and comprehensive record.

When all the evidence has been heard the case is taken under submission.

This complete record is the basis for the decision rendered by the commission. The application may be denied, authorized in whole or in part, or with such modifications as the commission finds to be justified by the facts.

Petition for rehearing of any case or for further hearing may be made to the commission by any party to the proceeding. If this petition is denied, recourse may be had to the California Supreme Court.

The staff of the commission is made up of attorneys, engineers, economists, rate and safety experts, transportation and research specialists and support personnel. The staff is composed of eight divisions, each headed by a director. The commission relies on its staff to provide it with legal, background, technical and other factual information, often in the form of written reports.

By statute, the PUC's headquarters are in San Francisco. A major branch, however, is maintained in Los Angeles. Six divisions—excepting the Legal Division and the Policy and Program Development Division—have personnel in the Los Angeles office who are not only familiar with commission policies and procedures but particularly with conditions and needs in the southern area of the state.

The public also may obtain information about the commission at 19 field offices in cities throughout the state. While these are primarily branch offices of the Transportation Division's Compliance and Enforcement Branch, dealing with truck operators, personnel also are able to offer general information about the commission or, in many instances, to direct inquiries to the proper person in San Francisco or Los Angeles. Informal complaints also may be made at the field offices, which are located in Sacramento, Oakland, Redding, Santa Rosa, Eureka, Stockton, San Jose, Fresno, Bakersfield, Santa Barbara, Downey, El Monte, Panorama City, San Bernardino, Santa Ana, San Diego and El Centro. The commission also has an Office of Governmental Affairs in Sacramento.

THE COMMISSION

JOHN E. BRYSON
President

Commissioner Bryson was appointed to the Public Utilities Commission by Governor Edmund G. Brown Jr. on January 26, 1979. He was elected president of the commission on January 30.

He was formerly chairman of the California State Water Resources Control Board from April 26, 1976, to January 25, 1979, which administers California water pollution control and water rights programs. Prior to that time, he was an attorney in Portland, Oregon, and vice chairman of the Oregon Energy Facility Siting Council.

He was one of the founders in 1970 of the Natural Resources Defense Council (NRDC), a national public interest environmental law firm, with offices in New York, Washington, D.C., and Palo Alto, CA. In September 1972 he established NRDC's western office.

Born in New York, N.Y. in 1943, Commissioner Bryson was educated in Portland, Oregon, attended Stanford University 1961–65, receiving a B.A. degree, was president of the sophomore class and the recipient of the Woodrow Wilson Fellowship for graduate study. From 1965–66 he was the recipient of Stanford Exchange Scholarship, at Freie Universitaet Berlin. He received his J.D. degree from Yale Law School in 1969, was on the Board of Editors of the Yale Law Journal and an assistant in instruction, 1968–69.

He served as a visiting lecturer at Stanford Law School in 1978–1979 teaching water law and is a member of the Governor's Commission to Review California Water Rights Law.

He is a member of the California, Oregon and District of Columbia Bar Associations. He is married, has two children, and presently resides in Palo Alto.

VERNON L. STURGEON
Commissioner

Vernon L. Sturgeon—Appointed Commissioner by Gov. Ronald Reagan September 2, 1969; reappointed for six-year term on December 29, 1972; served as president of the Commission. He was re-appointed by Governor Brown on January 26, 1979, to fill the 2-year unexpired term of Commissioner Batinovich, who resigned. His term expires on December 31, 1980.

Born October 1, 1915, of a pioneer California family temporarily in Arizona; returned to California with family at one year of age. . . . Attended California public schools and worked on family ranch . . . . Owner-operator of milk distributorship plant in City of Paso Robles since 1940; now operated by son. . . . Extensive government experience; Paso Robles Water Commissioner, 1952–54; Police Commissioner, 1954–56; City Council member, elected three times before being elected to State Senate in 1960 from San Luis Obispo County. . . . Served in Senate until January 1, 1967. . . . Appointed Legislative Secretary by Governor Ronald Reagan . . . Appointed Chief Deputy Director, Department of Public Works, February 13, 1968, before being appointed to PUC. Elected president of the commission July 1, 1972; reelected July 1, 1973 . . . Married to Esther Maston in 1938; three children, six grandchildren.

RICHARD D. GRAVELLE
Commissioner

Richard D. Gravelle—Appointed to the PUC on January 26, 1977, by Governor Edmund G. Brown Jr. for a six-year term.

Born in Portland, Oregon, December 5, 1926, he grew up in San Francisco, attending school at St. Ignatius High School, University of California, Berkeley, the University of San Francisco and USF School of Law . . . In private law practice 1956–59 . . . Joined PUC staff in 1959, where his duties included: Legal Assistant to two commissioners; trial counsel in the Legal Division; Examiner and decision writer; supervising attorney and trial attorney.

Served as General Counsel, heading the PUC's Legal Division for 2½ years prior to his appointment as a commissioner.

Served in the U.S. Navy 1946.

Resides in Daly City. Married, has four sons.

CLAIRE T. DEDRICK
Commissioner

Claire T. Dedrick—Appointed to the PUC by Governor Edmund G. Brown Jr. on June 23, 1977. Her term expires December 31, 1980.

Born in Logan, Utah, on June 28, 1930, Dr. Dedrick did her undergraduate studies in biological sciences and botany at the Universities of Utah and Arizona State, receiving a Bachelor of Science degree in 1952. In 1965 she received her doctorate in microbiology from Stanford University.

Prior to her appointment to the PUC, she served in the Governor's cabinet as Secretary for Resources, The Resources Agency, since January 4, 1975.

A resident of the Bay Area since 1955, she has been an active conservationist and has served as a past director and first vice-president of the Sierra Club; founder and director of the Peninsula Conservation Center; co-founder, Save Our Bay Action Committee; advisory board, Modern Transit Society; past director and treasurer, Western Institute of Aviation; past director and vice-president of the California League of Conservation Voters.

She is married to Kent G. Dedrick. Presently resides in Sacramento.

LEONARD M. GRIMES
Commissioner

Leonard M. Grimes Jr. was appointed to the PUC by Governor Edmund G. Brown Jr. on January 26, 1979. He was formerly the Secretary of the State and Consumer Services Agency, which has been described as the "conglomerate" of state government. Governor Brown elevated Grimes to that post in March 1977.

The agency exercises general supervision over, and is directly responsible to the Governor for the operations of the Departments of Consumer Affairs, General Services, and Veterans Affairs, as well as the Office of the State Fire Marshal, the Franchise Tax Board, the State Personnel Board, the Public Employees' Retirement System, the State Teachers' Retirement System, the Museum of Science and Industry, and the California Public Broadcasting Commission. He was also responsible for administering the Intergovernmental Personnel Act Grant Program and the Governor's Safety and Rehabilitation Program. The total annual program budget for the agency and its departments exceeds $813 million.

As agency secretary, Grimes was a member of the Governor's cabinet where he advised and assisted in establishing major policy and program positions for the various units within the agency as well as for state government in general.

Prior to assuming the post of secretary, Grimes served as Director of the State Department of General Services, having been appointed to that position in February of 1975. Prior to his appointment as General Services Director, he assisted the Brown administration as a member of the transition team. Before entering state service, he was a vice-president of Golden State Mutual Life Insurance Company—the largest western Black-owned life insurance company.

As Director of General Services he was responsible for the State's central service and support operation with an annual budget of over $169 million. The department is responsible for most state purchases, state building construction, maintenance and protection of state buildings, and the management of state-owned property. The department also oversees the operation of the state's major printing facilities, its vehicle fleet, its communication network, and the state's Small Business Procurement Office, the California Office of Minority Business Enterprise, and the state's Local Assistance program for school construction.

As Director of General Services, he served as chairman of the State Board of Control. The Board receives, processes, and investigates all claim's for money or damages against the state, including the largest Victims of Violent Crimes Program in the world. He was also a member of the State Public Works Board and the State Allocation Board and chaired the Building Standards Commission.

Commissioner Grimes began his career with Golden State Mutual in 1946, and had a wide range of experience in the company and with business generally. His work with GSM ranged from public relations and advertising to business systems (including installation and management) and general corporation administration and services. Throughout his career with GSM, he was a member of related business and professional associations and worked with many community organizations either as an officer or advisor.

A native of California, he was born in Los Angeles in 1923 where he lived until moving to Sacramento. He served in World War II in the Pacific Theater, receiving an honorable discharge in 1946. Graduated from the University of Southern California with a B.S. Degree in Business Administration in 1952, he has maintained his educational development through graduate and special courses in business related subjects.

Commissioner Grimes is a registered Democrat and a Black American.

EXECUTIVE DIRECTOR

Section 308 of the Public Utilities Code provides that "the commission shall appoint an executive director, who shall hold office during its pleasure. The executive director shall be responsible for the commission's executive and administrative duties and shall organize, coordinate, supervise and direct the operations and affairs of the commission and expedite all matters within the commission's jurisdiction."

He assists the commission president and coordinates the operations of the commission to relieve the commission members of administrative detail, requiring the division heads and other employees to report to him concerning their duties and job performance. Excepted from this is the relationship of attorney and client which exists between the General Counsel and the members of the commission.

The executive director prepares and presents the commission's budget to the fiscal officers of the State and to the Legislature. He is further responsible for handling all budgetary and procurement matters relating to personnel, services and materials.

Necessary action is taken by the executive director to require that the duties, responsibilities and assignments of various divisions are accomplished effectively and efficiently; he issues directives to commission employees to achieve those objectives.

He is also responsible for taking the necessary action to ensure that reports required of division heads and other employees are prepared and submitted on time. In addition, he has direct line supervision over the commission's public information program, supervising the work of the Public Affairs Office and the overall program of bringing the work of the commission to public attention.

JOSEPH E. BODOVITZ
Executive Director

The executive director is also required to keep a full and true record of all proceedings of the commission, issue all necessary process, writs, warrants, and notices, and perform such other duties as the commission prescribes. The commission may authorize the executive director to dismiss complaints or applications when all parties are in agreement thereto, in accordance with such rules as it may prescribe.

He also administers oaths, certifies to official acts and issues subpoenas for the attendance of witnesses and produces records needed at commission hearings and investigations.

During the past year, a number of organizational changes were instituted, designed to increase the efficiency of the agency and meet new problems and requirements that have evolved with changing general conditions.

The Office of Public Affairs was created under the Executive Director consisting of the Information Office and the Consumer Affairs Branch. In addition, the Office of Policy and Program Development has been made a division of the PUC.

Consumer Affairs

The Consumer Affairs Branch was formed December 2, 1976 and is now under the Office of the Executive Director.

This branch is responsible for resolving informal complaints and answering inquiries from consumers with regard to utility and transportation matters.

Units of the Consumer Affairs Branch are located in San Francisco and Los Angeles.

During the 1979–80 Fiscal Year the branch received 53,711 informal complaints and public inquiries related to utility matters.

Transportation cases numbered 1,270 which resulted in adjustments to customers totaling $200,890.98.

The figures show that the increase in workload anticipated in the last annual report did in fact occur.

A full tabulation of complaints and inquiries for the two sections is listed below.

CONSUMER AFFAIRS SUMMARY REPORT—1979/80

UTILITIES	**San Francisco**	**Los Angeles**	**Total**
Total Cases Filed	11,620	18.600	30,220
+ Backlog Carryover	1,952	1,173	3,125
− Total Cases Closed	13,367	19,736	33,103
= Cases Still Open	205	37	242
Money Refunded	$204,681.43	$246,605.38	$451,286.81

Centrex-Transfer		
PG&E	**PTT**	**GEN'L**
1,873	17,597	4,021

	Total
C.A.B. Filed	30,220
Centrex-Trsf.	23,491
	53,711

CASE DETAIL	**FILED**			**CLOSED**			**BACKLOG**			**REFUND**	
	S.F.	**L.A.**	**Total**	**S.F.**	**L.A.**	**Total**	**S.F.**	**L.A.**	**Total**	**S.F.**	**L.A.**
Communications	6,402	11,358	17,760	7,084	12,052	19,136	726	700	1,426	$124,095	$166,437
Electric	2,423	3,182	5,604	2,840	3,384	6,224	500	204	704	30,063	40,867
Gas	1,732	3,016	4,748	2,237	3,192	5,429	553	206	759	46,292	33,776
Water	715	664	1,379	805	723	1,528	117	59	176	4,207	5,425
Other	348	361	729	401	385	786	56	4	60	24	99
TOTALS	11,620	18,600	30,220	13,367	19,736	33,103	1,952	1,173	3,125	$204,681	$246,604

TRANSPORTATION	**SAN FRANCISCO**	**LOS ANGELES**	**TOTAL**
Total Cases Handled	524	746	1,270
Money Refunded	$92,822.92	$108,068.06	$200,890.98

CASE DETAIL		**Loss/Damage**		**Overcharges**		**Service**		**Other**		**Totals**	
Household Goods	S.F	141 –	$44,274	153 –	$35,063	41 –	$ 380	8 –	$ 0	343 –	$ 79,717
	L.A.	310 –	58,352	353 –	49,301	27 –	222	40 –	0	730 –	107,875
General Freight	S.F.	17 –	7,228	8 –	50	15 –	0	3 –	0	43 –	7,278
	L.A.	4 –	90	3 –	64	1 –	0	0 –	0	8 –	154
Bus	S.F.	10 –	2,939	8 –	1,759	90 –	1,129	22 –	0	130 –	5,827
	L.A.	0 –	0	1 –	40	0 –	0	3 –	0	4 –	40
Rail	S.F.	1 –	0	0 –	0	3 –	0	1 –	0	5 –	0
	L.A.	0 –	0	0 –	0	0 –	0	0 –	0	0 –	0
Vessel	S.F.	0 –	0	0 –	0	0 –	0	4 –	0	4	0
	L.A.	0 –	0	0 –	0	1 –	0	2 –	0	3 –	0
TOTALS		483 –	$112,883	526 –	$86,277	178 –	$1,731	83 –	$ 0	1,270 –	$200,891

ENERGY EFFICIENCY AND THE UTILITIES: NEW DIRECTIONS

The profound changes of the past several years in the economics of energy supply require fundamental reassessment of the directions of our nation's energy utilities. Policies that may have been appropriate when conventional fuels seemed plentiful and the unit costs of new electricity supplies were declining are now unacceptable.

The major challenge today is to find means to increase the productivity of available fuels, plant, and investment capital. To that end, the California Public Utilities Commission has taken a number of important steps—in restructuring—which depart sharply from past practices. Regulators and utilities elsewhere are likewise developing innovative responses to dramatically changed conditions.

In our judgment, the directions which these utilities take will significantly affect the extent to which we can meet what may be the country's most pressing challenge: providing an adequate supply of energy while constraining inflation and reducing dependence on foreign fuels.

Major innovations have been undertaken or are being undertaken by the PUC to increase the efficiency of energy use in California. It is believed that only through such innovation can utility bill increases be constrained while assuring reliable services to our ratepayers. At the same time, we believe such measures are essential to the health of the utilities under current conditions of capital shortage and restricted cash flow. Since the steps taken are new, they are controversial and in most cases require further refinement.

The Economics of Utility Energy Supply in California

The past several years have been characterized by rapid changes in energy costs and profound shifts in the underlying economics of California energy utilities. In 1974 the average price of natural gas for California consumers was 8.15 cents per therm; today it has reached 30 cents per therm. The utilities marginal cost for gas supply is close to 44 cents per therm. Similarly, in 1974 the average electric rate paid by all customers of privately owned utilities in California was 2.18 cents per kilowatt hour (kWh); today it is 6 to 7 cents per kWh. The marginal cost for generation of an additional kilowatt hour beyond current production levels is 8 to 9 cents. These increases have far outstripped the 7.7 percent compounded annual rate of inflation over the same period of time.

Today, each addition of generating capacity costs about four times more in inflation-adjusted dollars than new generating capacity did in the 1960's. Moreover, the essential relationship between marginal and average costs of electricity generation have changed. In the 1960's each new large-scale generation plant was more efficient, from both an engineering and financial point of view, than older plants. Today, higher costs of capital, materials and labor; longer construction lead times; and the use of more complex technologies to meet environmental and safety requirements have combined to make a new electric plant a far more expensive project than its predecessor. The effect has been to raise the marginal cost of new generating capacity taken together with marginal fuel oil costs well above the average cost of generating electricity. Only more efficient use of energy currently available can reduce the need to acquire new generating capacity—and at today's prices investment by utilities to promote more efficient use of energy is highly cost-effective.

PUC Initiatives

In response to rapidly changing costs, including previously unrecognized external costs, the PUC has been working to reorient its policies and to encourage redirection of the planning processes of the utility so as to maximize incentives for increased energy efficiency and development of alternative energy supplies. The commission's efforts began with its most traditional concern—the setting of rates for utility service. PUC decisions over the past five years have eliminated former ratemaking policies which created, in some instances, incentives to consume, and have redesigned rate structures to encourage conservation.

In addition, the commission has directed all energy utilities to develop conservation programs, designed both to increase the efficiency of utility operations and to limit demand growth among the residential, commercial and industrial sectors. Efforts have been made to moderate peak demand for electricity through load management, and utilities have become sources of valuable information and technical assistance to customers seeking means of controlling their rising utility costs. Energy conservation does not come free, however, and the capital costs of financing conservation improvements are a serious barrier to efficient energy use. With this in mind, the PUC has encouraged California utilities to provide substantial financial assistance to their residential customers for cost-effective conservation investments and to offer attractive terms to potential suppliers of energy from new and alternative sources.

There is more yet to be done. Among the various PUC proceedings now being considered are efforts to promote residential weatherization through zero-interest financing; hearings to refine methodology for calculating marginal costs of service; programs to expand the application of time-of-use rates and peak-demand limiting hardware to industrial, commercial and residential customers; proceedings to define the proper role for utilities in the financing and marketing of solar installations; studies to assess the impact of rate design upon energy consumption; and formal and informal analysis setting firm prices for a variety of forms of purchased power and reducing existing impediments to smooth integration of such power into the state's electricity grid.

Conservation Rate Design

As mentioned, the PUC looked first to its traditional ratemaking functions for means to provide appropriate incentives for energy efficiency. California, like many states, had traditionally employed a system of declining block rates for utility service, designed to reflect low marginal costs of supply and lower per-unit costs of serving larger customers. As marginal costs came to exceed embedded average costs of service, whatever justification there had been for declining block rates ceased to exist. With recognition, in the wake of the 1973 oil embargo, of the need to encourage conservation, the PUC saw that rate reform could provide an appropriate price signal to the utility customer as to the real cost of meeting additional demand for energy. As the costs of fuel have continued to rise, the need has become more pressing to match customer rates for marginal usage with the utility's marginal cost of providing service.

In response, the commission has developed an approach to rate design that encourages energy conservation and sends price signals to customers reflecting the increasing marginal costs of supplemental energy supplies. Key elements of our rate design policy are inverted residential rates, starting from a basic lifeline level; time-of-use electric rates for industrial and large commercial customers; and gas rates for industrial customers based on the cost of alternate fuels.

A lifeline rate reform program was initiated in 1975. Under the mandate of state legislation, the commission determined lifeline allowances for gas and electric service, with climatic variations, sufficient to meet the minimum essential needs of a family of four occupying a modest, well-insulated, single-family dwelling. By maintaining rates for lifeline quantities of usage at levels then in effect and increasing other residential, commercial, agricultural and industrial rates on a fairly uniform basis, the rate structure was substantially reformed by mid-1979, eliminating the system of declining block rates. The residential rate for usages above the lifeline quantities have been set at a level approximating the marginal energy and capacity cost, about 40 to 50 percent above the lifeline rate level. For example, in current rate proceedings to cover increased energy costs, Southern California Edison has proposed a rate of 8.6 cents per kilowatt hour (kWh) for the highest tier residential rate as compared to a system average of 7.1 cents per kWh. The proposed rate for a very large user with a high capacity factor under time-of-use rates would average about 6.5 cents per kWh. Electric rates in southern California are the highest in the state due to the predominance of oil-fired generation.

We have also emphasized marginal cost principles in gas rate design by requiring inverted residential rates over lifeline quantities and the use of an alternative fuel cost (marginal opportunity cost) standard for interruptible customers. The price of fuel oil is currently a controlling factor in establishing the price of imported natural gas and the marginal energy cost of electric energy in California. Gas rates in northern California are the highest in the state due to the very high price of Canadian gas, which constitutes nearly half of PG&E's supply. The present residential lifeline rate is 27 cents per therm and interruptible rates range from 38 to 44 cents. Major rate increases are presently under consideration.

In the industrial and commercial sectors the commission has utilized marginal cost data in implementing time-of-use rates for large users of electric energy. Time-of-use rates set in recognition of the variation in the utility's cost of meeting peak and off-peak demand, are currently in effect for all customers with maximum demands in excess of 500 kilowatts. We are investigating adoption of time-differentiated rates for smaller customers and intend eventually to expand the time-of-use rate program to the level where the more expensive metering required for such rates ceases to be cost-effective. The customers who are on the time-of-use rates already account for about a third of all electrical power produced by the PUC jurisdictional utilities.

Further elaboration of marginal cost nethodology and refinement of inverted residential rates are both essential to the acurate measurement and the realization by consumers of the cost effectiveness of conservation programs. The costs of such programs, when compared with the marginal cost to the utility of providing the energy saved, provide a measure of net benefit. It is important that utility customers receive the same price signals as the utility itself, and marginal cost pricing should provide that message.

A draft methodology for calculating marginal costs has been developed by the commission staff and the staff of the California Energy Commission, and has already been utilized by California electric utilities in making interim filings of fully avoided costs for power purchased from cogenerators and small power producers. A public hearing on the draft methodology has been held and the final generic methodology will be adopted in time for the utility filings required under the Public Utility Regulatory Policies Act (PURPA) in November 1980.

A marginal cost rate design will not be effective in demonstrating the cost effectiveness of conservation improvements or in inducing more restrained consumption of energy, if the customer is unaware of the price he or she pays for discretionary, or marginal, use of energy. For this reason the PUC has encouraged utilities to provide customer information by way of energy audits and revised billing formats. The monthly bill is an ideal medium by which to facilitate customer awareness of how rates are computed and exactly how they can save money by reductions in the use of gas and electricity. All the major utilities are implementing "report card" bill formats and including simple written messages on conservation themes on their bills in order to achieve this goal.

Load Management

The cost of electric service varies substantially with the time of day and the time of year when such service is required. Utilities must construct generating capacity or enter into complex power pooling arrangements to meet their peak demand, which for a particular utility system occurs consistently at a certain hour and a certain season. To meet that peak demand the utility not only must make capital investments which would not otherwise be required, but also must employ its least efficient generating plants, which in the case of California utilities means the relatively inefficient burning of imported fuel oil. For these reasons it is very much in the utility's and its ratepayers' interests to limit and even reverse increases in peak demand, whether by general conservation efforts or by programs directed specifically to the shifting of demand for service to off-peak hours. This is the function of load management.

Time-of-use rates discussed above as an example of conservation rate design consistent with marginal cost ratemaking principles, are a logical element of any load management program. Such rates, higher on-peak and lower in the off-peak hours, provide an important incentive to customers to shift their usage to periods of other than peak demand. Mandatory time-of-use rates are now in effect for customers whose demand exceeds 100 kW and such rates are available on an optional basis for several thousand commercial, industrial, agricultural, and residential customers in a variety of experimental programs. One example is an experimental offering of a low rate for off-peak operation of agricultural wind machines and water pumping.

Other load management experiments rely on the use of demand limiting hardware as well as rate design. Under the commission's direction, electric utilities are exploring the potential of various load management strategies involving residential, commercial and industrial customers. These include residential appliance cycling, commercial air conditioning cycling, community peak load reduction incentives, and mandatory load control devices. The California Energy Commission in cooperation with the PUC has also implemented large scale load management programs involving interruptible service and cycling of residential air conditioners and electric water heaters. Among the most interesting experiments are a project being initiated by PG&E, called the Cooperative Electric Management Program, which will reward entire communities for reducing their peak electric load, and an offering being prepared by Southern California Edison of an especially low rate for residential customers willing to accept curtailment of service during the periods of peak demand.

The commission's efforts to promote power pooling among California's electric utilities are another aspect of load management. We have encouraged our utilities to develop joint fuel procurement policies, and to maximize the operation of their most efficient generating plants by sharing capacity and energy where appropriate. California utilities have entered into a number of economy exchange agreements among themselves and with their out-of-state counterparts, providing for sharing of capacity on an hour-to-hour basis. An important related problem is the extent to which and the conditions under which utilities should be required to provide "wheeling" services for other utilities, or even for customers, which seek to transmit power owned by them over the utility's system.

Two other commission programs have made substantial contributions toward limiting the growth of electrical load. These are the programs for conservation voltage regulation (CVR) and street lighting conversion.

The CVR program is intended to bring electric line voltage, which traditionally has ranged between 114 and 126 volts, down to a range of 114 to 120 volts. Lowering the voltage delivered to the customer reduces energy consumption and promotes longer, cooler and more dependable motor, lamp and appliance service. Phase I of the CVR program, which has been completed by the major utilities, has achieved, whatever energy reductions are possible with existing circuitry, bringing maximum voltages down to 122 or 123 volts. The commission staff estimates that the Phase I CVR program is saving 2.27 billion kWh of power per year, roughly equivalent to a saving of 3.4 million barrels of oil annually.

Phase II will require substantial replacement of circuits to achieve the goal of a maximum 120 volt service, whenever such capital investment is cost effective. San Diego Gas and Electric and Sierra Pacific Power Company are making substantial progress on Phase II work, but other electric utilities are moving less rapidly in this area.

The street lighting conversion program is intended to replace all mercury vapor street lamps in California with high pressure sodium vapor fixtures within a four-year period. PG&E and Edison are now in the second year of their conversion programs, with SDG&E and the smaller utilities planning to initiate their efforts in 1980. The sodium lamps require only about 50 percent as much energy to generate an equivalent amount of light, and the commission staff estimates that the statewide conversion program will result in annual savings of 531 million kWh of electricity.

Conservation Financing

While rate design reforms have reallocated energy costs to eliminate incentives to consume and to provide conservation signals, utility rates are still far from reflecting full marginal costs. Moreover, most smaller ratepayers respond slowly to new rate signals. Thus, the commission has concluded that utility promotion of conservation should go beyond rate structure to more active facilitation of conservation measures. Over the last several years it has become increasingly evident that direct utility investment in conservation is cost effective, beneficial to all rate-payers, and perhaps the best available means to accelerate the installation of proven energy efficiency measures in homes and businesses.

The greatest untapped potential for energy conservation as it affects the utility industry is in the residential sector. From the beginning an important aspect of utility conservation work has been simply information—an effort to impress the residential customer with the extent to which he or she can curtail increases in utility bills through straight forward techniques to avoid wasting energy.

Informational efforts have been concentrated in the form of home energy audit services, which the PUC has encouraged each utility to offer to its customers at no cost.

PG&E, our largest utility, has been conducting on-premises residential audits since September 1978, and has completed over 40,000 such audits, more than 15,000 in the first three months of this year. The other utilities are commencing comparable programs. The utilities also make more complex audit services available to their commercial and industrial customers. In connection with these energy inspections, the utilities offer their customers information and assistance in selecting and financing energy conservation measures.

Substantial public interest has been shown in the energy audit services which have been made available, and several utilities have experienced substantial backlogs of audit requests. PG&E has established a training center in Stockton for the training of weatherization technicians, a large proportion of whom are members of minorities from low-income backgrounds. The Stockton program also has been used to train additional energy auditors to respond to the backlog of PG&E audit requests which reached 28,000 last November.

Once the utility customer's home has been audited, he or she then is faced with the decision of whether to invest from $500 to $1,500 in improvements which will be cost effective over a five to ten year span but require an immediate commitment of funds. The PUC has recognized the important role public utilities can play in making such investments more attractive.

The utilities' direct and regular contact with ratepayers, professional expertise regarding energy efficiency measures, and access to financing place them in a unique position to advance the penetration of energy efficiency devices relatively quickly. Thus, as energy costs have risen steadily, the PUC has step by step adopted policies directing utilities to expand the scope of their involvement in conservation financing.

In early 1978, the commission ordered utilities to provide eight percent loans with extended payback periods to finance ceiling and attic insulation and to offer information and installation services. We also required that the utilities install at no charge water heater blankets and low flow showerheads as an incentive to customers to insulate their ceilings and attics.

While the eight percent loan program has provided a stimulus to weatherization of existing homes, the commission has concluded that a utility financing program imposing the most minimal obligations on recipients would provide a significantly greater stimulus to residential conservations investment at costs far lower than alternative measures for generating new supply. Consequently, we have asked our utilities to propose programs which offer zero interest financing for a full array of cost-effective conservation measures, adding measures such as wall and floor insulation, weatherstripping, storm windows or double glazing, and duct insulation to those included in the eight percent program. For each prospective customer, the appropriate measures would be determined as part of a home energy audit.

The experience of Pacific Power and Light Company (PP&L) demonstrates the cost effectiveness of conservation investments. Since January of 1979, PP&L has arranged for the weatherization of over 4,000 dwelling units under the zero-interest financing program which they have implemented in their Oregon, Washington, Idaho and Montana service areas. An analysis of the 2,000 insulation and weatherization jobs performed in Oregon shows that the average cost to ratepayers of installing insulation and weatherization materials was approximately 12 mills per kWh saved, plus 2.5 mills to administer the program. The estimated cost of new generating capacity by comparison is 56. mills.

On April 2, 1980, the PUC authorized PP&L to make interest free loans to its California residential customers for improvement of their homes' energy efficiency. Under the PP&L program, which may serve as a model for California utilities, upon the customer's request the utility will inspect the home to assess the cost-effectiveness of energy measures such as floor and ceiling insulation, storm windows and weatherstripping. If the proposed improvements would be cost-effective, then PP&L will finance them, at no interest, with principal to be repaid only when the home is sold or in periodic payments beginning ten years after installation. PP&L plans to spend $5.7 million to weatherize some 4,500 homes and projects an energy savings of 22 million kilowatt hours per year valued at $1,232,000 annually or $30,800,000 over a 25-year useful life. Few if any alternative utility investment options offer a comparably attractive savings to the ratepayer.

Among other benefits, zero interest financing plans will make it possible to reach low and low-middle income homeowners, who receive little benefit from other currently available economic incentives to conserve such as tax credits and who cannot afford the capital costs of even the most cost-effective conservation investments. The programs also should stimulate participation by the notoriously hard-to-reach owners of multifamily dwellings who will thereby be able at no cost to offer reduced utility bills to their tenants.

With regard to ratemaking treatment of utility investment in conservation financing, the commission is willing to consider proposals to rate base or expense the financing costs or a combination of these alternatives. Both approaches offer benefits. To expense the costs provides cash-short utilities a prompt return of the full investment and holds down ratepayers' costs by excluding any utility's rate-of-return on the investment. Rate-basing the costs, on the other hand, provides the utility a rate-of-return as with more conventional investments and allows the ratepayers to spread reimbursement of the investment over its full projected life. The existing eight percent loans are treated on an expense basis, whereas the commission has approved PP&L's proposal to rate base its entire unamortized costs for the program. PG&E has proposed a mix of 80 percent expense and 20 percent rate-base, corresponding to the proposed formation of a wholly-owned non-utility subsidiary capitalized at an 80/20 debt-equity ratio to finance these loans.

A constraint upon the commission's implementation of more vigorous programs to promote residential energy conservation measures is the provision of the National Energy Conservation Policy Act of 1978 (NECPA) which prohibits utility financing of such installations. Although existing eight percent loan programs are permitted under the "grandfathering" clause of that statute, current law may prevent implementation of zero interest financing in California. Congress has wisely recognized the counter productive nature of the NECPA prohibition, and a Senate-House conference committee is now considering legislation which would eliminate it. Unfortunately, one proposed bill would retain a restriction against the offering of low-interest loans by utilities, to protect the interests of the banking industry. In fact, banks and savings institutions have shown little interest in making conservation loans. The PUC sees the maintenance of this restriction as costly and ill-advised, and has been working for its elimination from the proposed law.

Line Extension Allowances

As described above, the commission is encouraging investment by the utilities in retrofit insulation and weatherization as an effective means of implementing increased energy efficiency in California's existing housing stock. Similarly, the PUC has sought to create incentives for greater attention to energy efficiency in new residential construction. Through the provision of electric and gas line extension credits, the utilities traditionally have borne a substantial proportion of the capital costs of extending service to new customers. The commission is now in the process of revising its rules and procedures and the system of credits applicable to line extensions so as to bring these arrangements into accord with today's needs.

In the days of declining marginal cost of new electric plants or additional gas supply, it seemed to make sense for utilities to promote increased demand, and so the PUC authorized them to provide substantial "free footage" allowances for new customer connections, varying directly with the anticipated new load. The commission's current reforms are intended to eliminate incentives for consumption and replace them with inducements to conserve energy. By a decision signed in February 1980, the commission substantially reduced the basic line extension allowances, eliminated all load promoting allowances, and provided new credits for conservation features beyond those mandated by state or federal law. This matter is under appeal by a number of rural parties. Such conservation features justifying line extension bonuses range from solar water and space heating systems and passive solar design features, to pilotless gas ranges, microwave ovens and the use of fluorescent lighting.

The commission's established policy is that natural gas is the preferred fuel for residential energy needs because of its efficiency and clean burning qualities. In light of this policy, and the present improved outlook for natural gas supplies, the commission's new rules maintain a basic free footage allowance for gas line extensions but eliminate most such allowances for electric extensions in areas served by gas. This was done to encourage the continued construction of homes with both gas and electric systems and to discourage the use of those electric appliances which are less costly to install but far less efficient than gas appliances. For example, to cook electrically, 11,500 BTUs of natural gas must be burned in a typical steam electric boiler to deliver 3,400 BTUs to heat a burner on an electric stove. A gas utility, on the other hand, would deliver only 3,400 BTUs to do the same work. Yet, to continue with the cooking example, 89 percent of the ranges currently being installed in new residential construction in PG&E's territory are electric, and SDG&E estimates 73 percent of new stoves installed in its service area will be electric. Thus the incentives inherent in the gas allowance appear necessary to balance the growing trend toward all-electric homes.

Because of the significance of these changes from prior procedures, utilities and other interested parties have been invited to comment and further hearings on these issues are in progress.

Solar Water Heater Financing

In 1978, the California Legislature asked the PUC to study various methods by which long term, low interest financing could be offered to consumers to help overcome the financial barriers to retrofit solar water heater installation. Pursuant to that mandate, the commission staff conducted a study which indicated that energy costs and solar technology already had reached the point where solar water heating offered a cost-effective alternative to electric and possibly also gas water heaters. In response, the PUC in April 1979 commenced a formal proceeding (OII-42) which culminated in January of this year with a report to the Legislature, "Financing the Solar Transition," and a decision of the Commission (No. 91272) consistent with the report's findings and recommendations.

In the course of the commission's investigation three primary barriers to rapid market penetration by solar water heating systems emerged:

1. The high initial capital cost of solar systems;
2. The pervasive confusion among the public about solar systems, how they work, and how much they cost, if and where they can be purchased; and
3. A lack of consumer confidence in the systems and their installers.

To help overcome those barriers, especially the high capital cost, the commission directed California's four major private utilities to develop solar financing demonstration programs. Proposals for such programs recently have been filed with the commission. After hearings and PUC review, solar water heating retrofit programs should be underway this year.

The demonstration programs are designed to retrofit two percent of the gas water heaters and ten percent of the electric water heaters in each utility's service area within three years. Thus, statewide, some 61,000 electric and 128,000 gas water heaters will be converted to solar systems. Savings from these retrofits are projected to be approximately 32 million kWh per year and 160 million therms per year.

Each utility will offer, to the owners of single family and multi-family dwellings, sufficient funds (in combination with tax credits) to finance the full cost of reasonably priced systems and to provide for their installation at no initial cost. Each program will allow the customer to choose among three repayment options: equal monthly installments over twenty years; monthly installments keyed to energy savings from the retrofit; or lump sum repayment upon resale of the dwelling. Further, all utility proposals were asked to include for further consideration a plan which requires no repayment at all. There are also various options concerning interest payments, ranging from zero to eight and a half percent interest financing.

Utilities were directed to propose either rate-basing or expensing of the funds advanced. Utility proposals already received vary, including a PG&E plan to establish a wholly owned non-utility subsidiary capitalized at an 80/20 debt equity ratio to handle the financing programs, as in the case of the utility's zero interest conservation financing proposal.

While the costs of solar financing programs are as difficult to predict with accuracy as are the costs of any other major energy supply project, one effect of rapidly rising utility rates is that they continue to enhance cost effectiveness for energy alternatives such as solar water heating. Demonstration projects mandated by the PUC will serve to produce data which will enable us to refine our cost effectiveness conclusions for the future.

Solar Marketing

In 1978 at least two utilities proposed the marketing of solar systems as part of their energy conservation efforts. Aware of potentially anti-competitive aspects of such programs, the commission requested that the utilities not proceed with such plans until the commission could review these questions thoroughly; it then initiated a formal investigation to do so (OII-13). Later in 1978 both state and federal legislation, AB 2984 (the Bates bill) and the National Energy Conservation Policy Act (NECPA) were enacted, establishing restrictions on utility involvement in the marketing of solar devices. OII-13 then focused on determining the scope of utility activity which would be appropriate and permissible under the terms of these laws.

The extent of potential utility involvement ranges from simple informational support activities, including audits, advertising, and other forms of promotion of solar to direct sale and installation by utilities of solar equipment for their customers. The prospect of direct marketing by utilities has been challenged on the basis that the utilities would have distinct advantages over others involved in solar marketing in generating demand, marketing equipment and financing such sale programs. On the other hand, these same advantages, including the utilities' direct and regular access to consumers and their technical expertise, have been seen as attributes which would facilitate the promotion of solar.

The commission's interest is to encourage utilities to promote solar development to the maximum extent possible without subverting competition or limiting consumer choice. OII-13 has enabled the commission to consider the issues raised by all parties interested in these issues, including consumer representatives, members of the solar industry, and the utilities. A decision articulating the PUC's views as to the appropriate extent of utility involvement at this stage of development will be forthcoming in the near future.

Cogeneration and Small Power Production

Among the most promising means of increasing the efficiency of use of our scarce energy resources is cogeneration, which utilizes the same fuel source for the sequential production of electricity and steam, heat or other useful energy. At present, many industrial processes offer the possibility of harnessing waste or excess energy for electric generation. At relatively slight incremental cost, this potential can be transformed into important additional generating capacity. Moreover, the electric supply which cogeneration offers does not require substantial capital involvement by the utility or the construction of large scale centralized power plants.

Cogeneration requires only about half as much fuel to produce electricity and steam as would be needed to produce the two separately. Small power production using renewable fuels such as biomass, solar, hydro, and wind, reduces demand for scarce fuels and vulnerability to price increases of these fuels.

In a series of recent decisions, the PUC has signaled its commitment to rapid realization of California's potential to produce power by cogeneration and other means of small power production. By separate orders in December 1979, the commission issued pricing guidelines for utilities to follow in developing cogeneration, and it imposed a rate of return penalty on one utility for having failed to make reasonable efforts to pursue the cogeneration potential in its service area. By further resolution, the commission extended the pricing principles contained in the cogeneration decision to all other electric utilities in California. This resolution expressly applies these pricing principles to small power production, such as wind turbines, small scale hydroelectric generation, and geothermal.

The essence of the PUC's pricing policy is that utilities are authorized to provide cogenerators and small power producers firm price offers based on the utilities' full avoided cost of power generation. This policy recognizes the numerous advantages cogeneration offers, such as increased fuel efficiencies, diversification of utility supply resources, and relatively short development lead time. Further, at present and for the foreseeable future, California's utility system is heavily dependent on oil-fired generation; this dependence is especially marked with respect to power generated to meet peak demand. Thus, in general, purchases of power from cogenerators and small power producers will enable utilities to reduce their consumption of imported oil.

The potential for alternative energy resources in California is substantial. There is an estimated physical potential of 6,000 megawatts (MW) of cogeneration alone. Much of the power may come from the Kern County oil fields where heavy oil recovery requires the production of large quantities of steam. In its December 1979 decision in OII-26 (an investigation of PG&E's resource planning process), the PUC informed PG&E that it expects 2,000 MW of new cogeneration to be in operation or under contract by 1985. The pricing policy also enunciated at that time evidences the PUC's commitment to support the vigorous effort which this goal will require.

The commission decided that price offers should be firm, at full marginal costs, rather than negotiated, to offset the utility's advantage in a market where it is the only buyer for many sellers. Payment of full avoided cost to cogenerators and small power producers will afford them maximum incentive to invest in the face of high initial capital costs and risks. An approach consistent with FERC regulations being developed under the Public Utilities Regulatory Policies Act, payment of full avoided costs by utilities to cogenerators and small power producers will approximate the functioning of a competitive market. The prices quoted by utilities are to be based upon the marginal costs for capacity and energy which they would otherwise incur for the generation or purchase of an equivalent amount of electricity. Utilities are to publish and diseminate a schedule of full avoided energy costs to all potential cogenerators and small power producers on a quarterly basis.

Producers willing to commit to making power available to the utility at specified times will be eligible for a payment consisting of an energy component (based on the utility's last quarter's average price of fuel oil) and a capacity component (based on the capital cost of new plant construction).

Further, under the PUC policy, as both producers and consumers of energy, cogenerators and small power producers may take advantage of a number of options, depending upon their output and requirements. These options include the simultaneous purchase and sale of electricity, which affords the additional economic incentive of selling electrical output to the utility at marginal cost and purchasing electricity from the utility at regularly filed rates. Alternatively, cogenerators who choose to utilize their electrical output to meet internal requirements may purchase supplemental power from the utility at nondiscriminatory standby rates.

The PUC also will consider providing additional incentives for cogeneration, including a higher curtailment priority and lower gas rates for cogeneration facilities using natural gas. The PUC already has required utilities to reduce rates for standby electric service to cogenerators.

In the OII-26 investigation, the PUC is continuing to study other alternative energy resources, such as small hydro and wind generation. This phase of the case will further develop pricing guidelines tailored to the particular characteristics of these resources. In addition, we are working with utilities and small power producers to identify existing impediments to rapid development of small power potential.

Conservation and Resource Planning

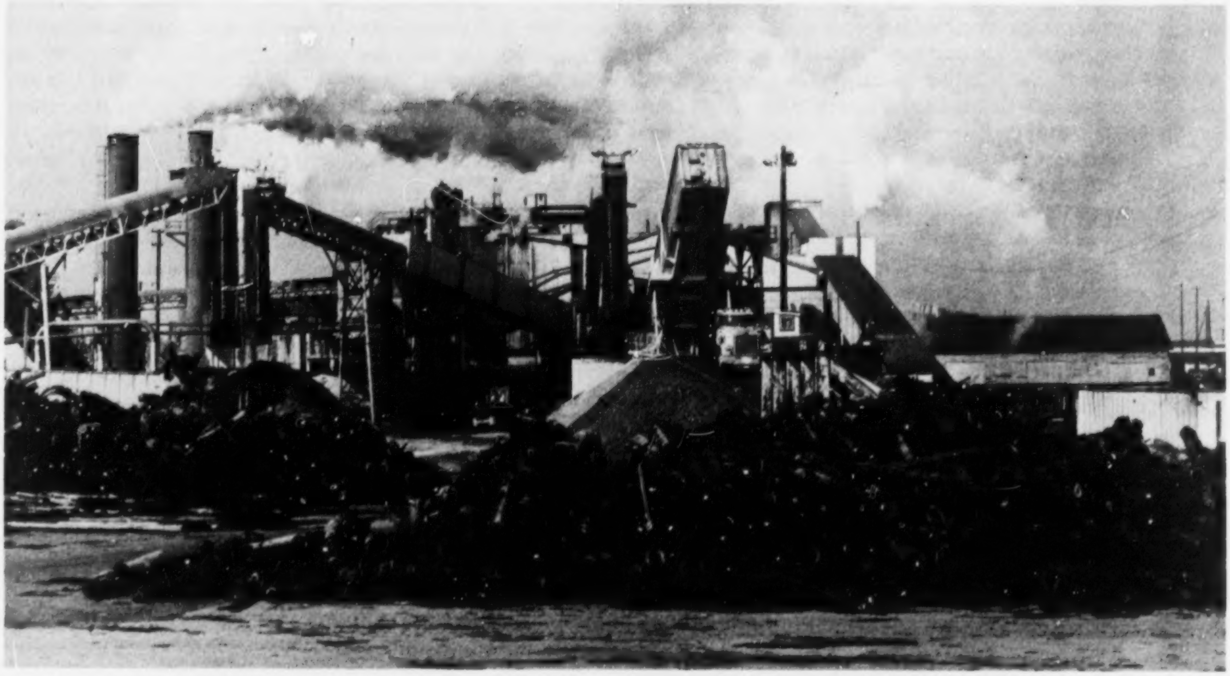
This discussion has outlined a number of initiatives undertaken by the Public Utilities Commission, or by California utilities with the commission's encouragement, aimed to promote either greater efficiency in the use of energy or the development of alternative energy sources. The list of topics covered has been far from inclusive. Some important initiatives have scarcely been mentioned, such as the work of PG&E, SDG&E, and Southern California Edison to develop California's diverse geothermal resources, the growing number of experiments in wind generation and biomass conversion, and the broad range of promotional campaigns and demonstration projects by which the utilities encourage conservation.

Increasingly, activities directed toward the promotion of conservation and alternative energy sources are becoming institutionalized as a substantial aspect of the utility business. As this occurs, it becomes imperative that the Public Utilities Commission fulfill its regulatory oversight function with respect to utility conservation and alternative resources operations just as conscientiously as it does with regard to other aspects of utility operations. The utility's conservation budget should not be rendered sacrosanct merely because the PUC favors conservation. Energy efficiency, and cost effectiveness, broadly understood to encompass the externalities of environmental impact, national security, and public safety, should be the standards by which planning choices and budgetary priorities are set.

Consistent with this concern, the commission has directed California's major utilities to develop a progressive, coherent conservation planning process based on detailed assessment of conservation potential in the various usage sectors, and to make subsequent investments on the basis of the best incremental savings per dollar spent. This concern with the process of conservation planning is consistent with the commission's parallel efforts to review and establish guidelines for the utilities in their overall resource planning. Such efforts to date include ongoing formal investigations of the resource plans of two of the state's major utilities, and also a comprehensive investigation of California's future gas supply undertaken as part of an evaluation of the need to construct a liquefied natural gas terminal on the Pacific coast.

In this time of transition and new directions in the sources to which our utilities look for energy supplies and in the very nature of the public utility as an institution, it is important that the utilities, their regulators, and other interested parties work cooperatively and openly in the evaluation of resource options and investment alternatives. The decisions reached and the directions taken by the utility industry in the coming decade may substantially affect the structure and well-being of our economy, the health of our environment, and even the security of our nation.

Resource planning choices are and will be controversial. Every option broached suggests new problems and new obstacles, offends some interests, gives rise to new alarms. This is true of nuclear, of LNG, and coal, and it is also true of solar and geothermal, of conservation loans and conservation rates. The most heated issues are not just what resource choices should be made, but how each resource should be tapped, by whom and for whose benefit.



At Louisiana-Pacific Corporation's Samoa, California plant, wood that might otherwise go to waste is used to fuel this power plant. The plant supplies the electric needs of the big pulp mill and building products manufacturing complex, and also feeds at least 5,000 kilowatts into the Pacific Gas and Electric Company system. PG&E and Louisiana-Pacific recently signed a five-year contract based on PG&E's incentive prices for purchase of electric energy and generating capacity from plants like the one above.

By taking advantage of a Pacific Gas and Electric Company program, some agricultural customers of the utility are able to reduce their power bills through "time-of-use" rates, which are lower during periods when their usage is reduced when other customers' demands for electricity are high. A meter that measures when energy is being used on a dairy farm near Fresno is shown above.

LEGAL DIVISION

Legal services to the commission are provided under the direction of the general counsel. The basic functions of the Legal Division are to provide advice and representation on behalf of the commission and the People of the State of California in all matters having to do with regulation of California utilities. In addition, PUC attorneys represent the commission staff in proceedings before the Public Utilities Commission and represent the commission before federal administrative agencies and federal courts.

To carry out this responsibility, the Legal Division has been divided into four primary sections. These are the Advisory and Appellate Section under Hector Anninos, Deputy General Counsel; the Staff Counsel Sections I and II under the supervision of Assistant General Counsels William N. Foley and Sheldon Rosenthal, respectively; and the Federal Section directed by J. Calvin Simpson, Assistant General Counsel.

Advisory and Appellate Section

The Advisory and Appellate Section is primarily responsible for reviewing petitions for rehearing of commission decisions and defending commission decisions on appeal to the California Supreme Court and the United States Supreme Court. If a decision of the commission is challenged in a petition for rehearing, an attorney from this section will independently review the entire record to determine whether there has been legal error which would necessitate a rehearing.

During the 1979–80 fiscal year, the number of petitions considered for rehearing was as follows:

Petitions for Rehearing Filed:	147
Granted or Denied:	141
Dismissed:	6
Pending:	0

If the commission denies rehearing, and the aggrieved party files a petition in the California Supreme Court for a writ of review or mandamus, a member of this section will defend the commission's action before that court, and as necessary, before the U.S. Supreme Court.

During the 1979–80 fiscal year, the following Petitions for Writ were received and acted upon:

Petitions for Writ of Review or Mandamus Filed:	26
Petitions Granted or Denied:	26
Petitions Pending:	0

One of the foregoing was subsequently taken by litigants to the United States Supreme Court and successfully defended there by this section.

In addition to its appellate functions, this section advises the commission, the commission staff, and the general public on all legal matters pertaining to the commission. The advisory section also responds to legal inquiries from state officials and agencies, private attorneys, and the general public.

Other duties of this section include representation of the commission in original actions in the superior and municipal courts and review of the biweekly agenda of commission opinions.

Staff Counsel Section I

The primary assignment of Staff Counsel Section I is to meet the urgent demand for more rapid resolution of major rate proceedings in accordance with Commission Resolution No. A-4693, adopted on July 6, 1977, which established an expedited rate procedure (Regulatory Lag Plan) for the major gas, electric, and telephone utilities. Under the plan, two attorneys are assigned to each major rate case, if personnel availability permits.

This section also represents the commission in matters before all other state agencies. Of particular prominence is its work with the California Energy Commission regarding the siting of new electric utility generating facilities. This effort requires both commission representation in formal matters and informal coordination of policy and planning at the staff level.

Lawyers on the liquified natural gas team are a part of Staff Counsel Section I. They are responsible for presenting the Staff position in the several proceedings concerned with the need, location and safety of a major liquefaction plant on the California coast. This has involved proceedings before courts, the commission, and other state and local bodies. An interim decision conditionally approving an LNG site was issued by the commission on July 31, 1978.

Section I also represents the commission before the Legislature. Attorneys are constantly appearing before various committees to present the commission's views on pending legislation and answer questions about commission policy. Major legislative subjects during the current fiscal year have included legislative proposals to deregulate some utility and transportation company activities presently under the commission's jurisdiction and a joint legislative committee study into possible reorganization of State agencies involved with energy related subjects.

Subpoenas to Commission employees or for commission records are channeled to this section. This activity may require court appearances. Also, requests for documents under the Public Records Act are referred to this section for opinions.

Staff Counsel Section II

Staff Counsel Section II handles hearings other than general rate proceedings of major utilities. Thus, it is responsible for all certificate, service, and complaint matters, and all hearing work involving transportation, financing, or water.

To the extent that there are special procedures for rate adjustments for the major energy utilities, these would be assigned to Section II. These proceedings are basically fuel cost offset matters and exploration and development offsets.

Environmental work is a major function of Section II since some environmental inquiry is involved in every certificate matter. This is particularly true in energy cases, where new sources of power are being examined. Solar and geothermal activity have been increasing, as have applications for construction of electric plants outside of California and associated transmission lines.

The commission's efforts at reregulation of the trucking industry have been spearheaded by lawyers from Section II. The first of these decisions has already been reached. Many days of hearings were consumed in this effort.

Many of the internal management functions of the Legal Division are under the supervision of this section. These include personnel functions, budget planning, equipment acquisition and draft review of some commission decisions.

Federal Agencies Section

The Federal Agencies Section represents the commission before federal administrative agencies. Continuing efforts by the federal government to cope with energy, transportation and communications problems have required extensive participation by the commission in various government forums.

During the past year the section's primary efforts have been before the Federal Energy Regulatory Commission (FERC), a division of the Department of Energy. The PUC has also participated in proceedings before the Economic Regulatory Commission of the Department of Energy (ERA), Civil Aeronautics Board, Nuclear Regulatory Commission, Federal Communications Commission and Interstate Commerce Commission.

Attorneys from this section represent the PUC in federal appellate court proceedings stemming from federal agencies litigation and present the commission's position on federal legislation. Commission attorneys have proposed changes in legislation pending before Congress, particularly with reference to regulatory reform in the energy, airline and communication fields.

ADMINISTRATIVE LAW JUDGES

The commission is a regulatory agency with legislative, judicial, and police powers to regulate privately-owned utilities and transportation companies. The Division of Administrative Law Judges assists the five Commissioners with discharging the legislative-judicial functions conferred by the California Constitution and statutes.

There are essentially three types of formal matters which come before the commission: applications, complaints, and orders of investigation. The first two are filed by utilities, persons, or organizations seeking specific relief, while the third is instituted by the commission on its own motion to investigate conditions which may require remedial action. Each formal filing is assigned to a Commissioner and referred to an Administrative Law Judge (ALJ), who then assists the assigned Commissioner with processing the matter through the hearing and decision processes until a determinative opinion and order is signed by the commission.

Formal filings which require public hearing are heard by the Commissioner and/or the ALJ to whom they are assigned by the commission. Because of the hundreds of such filings received each year, it is impossible for a Commissioner to preside at each hearing.

Given the volume of formal filings, certain more routine matters that are not contested are referred to what are called staff examiners (usually branch heads) for processing. Those proceedings also have an assigned Commissioner.

ALJs, in the conduct of public hearings, are required to advise parties of their rights; swear in and examine witnesses; issue subpoenas; receive testimony, documentary, and other evidence; rule on objections, motions, and the admissibility of evidence; hear oral arguments; analyze pleadings; and evaluate evidence and law.

The Division consists of the Chief ALJ, three assistant Chiefs, and 28 ALJs. Of the 32, 19 are lawyers, six are engineers, six are transportation experts, and one is a certified public accountant. The commission's court reporters and transcribers are in the ALJ Division's Reporting Branch. The Docket and Process Offices and the Calendar Clerk are part of the ALJ Division and perform vital functions in the processing of formal matters.

The following is a breakdown of matters in three classifications that were filed with the Docket Office:

Initial Filings:	
Applications	806
Orders Instituting Investigation	20
Formal Complaints	124
Orders Setting Hearings	14
Petitions For Modification—Transportation Rates	51
Subsequent Petitions on Commission Decisions:	
Applications For Rehearing (referred to Legal Div.)	375
Petitions For Modification of a Decision	142
Petitions to Reopen Proceedings	15
Miscellaneous Petitions	116
Miscellaneous Filings:	
Briefs, Motions, etc.	3,966
Grand Total	5,629

The Calendar Clerk set 381 hearings involving 534 matters; reset 83 hearings involving 99 matters; removed and temporarily removed 48 hearings involving 71 matters from the calendar.

The Process Office mailed and distributed 70,123 copies of decisions and orders. In addition, 10,400 copies of the public Conference Agenda, consisting of a total of approximately 303,412 pages, were mailed and distributed.

It is the goal of the ALJ Division to prepare a proposed decision for the commission on each matter which:

1. Is grammatically correct and reads well.
2. Is well-organized and addresses all material issues.
3. Articulately explains the positions of the parties.
4. Resolves all contested material issues with a cogent discussion on the merits; apprising parties why they won or lost on litigated issues.
5. Explains commission policy so that a nonutility-expert reader can understand the basis of the policy.
6. Explains any departure from established commission policy.
7. Contains legally adequate findings of fact and conclusions of law.

Many formal matters do not require hearing because they are uncontested. Nevertheless, a proposed decision must be prepared by an ALJ after review of the matter for consideration by the full commission.

ALJs are essential personnel who are delegated great responsibility by Commissioners. The ALJ's function is to assist the particular proceeding's assigned Commissioner with the procedural processing of the matter and prepare a proposed opinion which the assigned Commissioner will sponsor for consideration by all Commissioners at its public decision making conference. Also, the ALJ is expected, and allowed, to present the full commission with his recommendations or proposed order in the event his conclusions differ from those of the assigned Commissioner. In the vast majority of instances the commission accepts the assessment of the ALJ and in major complex proceedings differences usually hinge on a few of the many issues.

The records of the Division of ALJs indicate that during this fiscal year the commission issued a total of 1,394 decisions involving a total of 2,074 matters, with 1,032 days of hearing held.

The following breakdown illustrates the various kinds of formal matters that come before the commission and the number of decisions and orders issued during the fiscal year pertaining to such matters:

UTILITY:

Abandonment

Gas	1
Hydraulics	1
Total	2

Requests for Certificates of Public Convenience & Necessity

Communications	8
Electric	12
Gas	7
Hydraulics	9
Total	36

Modification Of Or Exemption From Decisions/Amendments to GO

Communications	4
Electric	9
Gas	3
Hydraulics	9
Multi utility	4
Total	29

Leases, Transfers, Acquisition of Control

Communications	5
Electric	3
Gas	1
Hydraulics	35
Total	44

Miscellaneous Matters

Communications	4
Electric	2
Gas	2
Hydraulics	1
Multi Utility	1
Total	10

Rates

Departures, Revisions, Adjustments

Communications	1
Electric	1
Hydraulics	2
Total	4
Communications	2
Total	2

Increase

Communications	6
Electric	15
Gas	12
Hydraulics	34
Multi Utility	1
Total	68

Security Issues

Communications	17
Electric	10
Gas	4
Hydraulics	18
Multi Utility	14
Total	63

Petitions for Modification/Rehearing of Decisions; Supplemental/Miscellaneous Orders

Communications	45
Electric	26
Gas	19
Hydraulics	28
Multi Utility	30
Total	148

Formal Complaints

Communications	60
Electric	5
Gas	10
Hydraulics	36
Multi Utility	13
Total	124

Commission Investigation

Communications	3
Electric	10
Hydraulics	2
Multi Utility	7
Total	22
TOTAL UTILITY	552

TRANSPORTATION

Abandonment

Passenger Stage	1
Total	1

Agreements

Rail	1
Truck	1
Total	2

Requests for Certificates of Public Convenience & Necessity

Airline	11
Passenger Stage	109
Pipeline	2
Truck	34
Vessel	1
Warehouse	5
Total	132
Grade Crossing	61
Total	61

Modification Of Or Exemption From Decisions/Amendments to GO

Airline	1
Passenger Stage	5
Pipeline	1
Rail	1
Truck	8
Warehouse	1
Total	17

Leases, Transfers, Acquisition of Control

Passenger Stage	18
Truck	43
Warehouse	5
Total	66

Miscellaneous Matters

Passenger Stage	5
Rail	2
Truck	5
Vessel	2
Warehouse	1
Total	15

Rates

Departures, Revisions, Adjustment

Passenger Stage	1
Truck	160
Total	161

Establishment

Truck	34
Total	34

Increase

Airline	9
Passenger Stage	43
Pipeline	1
Truck	43
Vessel	6
Warehouse	40
Truck	144

Security Issues

Truck	6
Warehouse	1
Total	7

Petitions for Modification/Rehearing of Decisions; Supplemental/Miscellaneous Orders

Airline	1
Passenger Stage	49
Rail	17
Truck	63
Vessel	5
Warehouse	5
Total	137

Formal Complaints

Airline	1
Passenger Stage	8
Rail	1
Truck	4
Total	14

Commission Investigation

Airline	2
Pipeline	1
Rail	3
Truck	15
Total	21
Total Transportation	842

The following tabulation will condense the above data according to the particular utility or type of transportation involved:

Utility

Communication	155
Electric	93
Gas	59
Hydraulics	175
Multi Utility	70
Total Utility	552

Transportation

Airline	25
Passenger	239
Pipeline	5
Rail/Grade Crossing	88
Truck	416
Vessel	14
Warehouse	55
Total Transportation	842
GRAND TOTAL	1,394

MANAGEMENT SERVICES DIVISION

The Management Services Division supports the commission as a whole by providing services essential for its daily operation. Additionally, it carries out a number of statutory functions required by the Public Utilities Code. Among the most important programs ordered by the division are those concerned with administrative services, data processing, personnel, employee training and development, fiscal operations and consumer affairs. A special programming unit providing liaison between the Finance Section of the Revenue Requirements Division and the Data Processing Branch is an additional key service for the division.

Manpower Services and Resources Branch

This branch assures the smooth and efficient handling of personnel transaction; employee benefits; personnel management; and fiscal operations.

Personnel Unit

Classifies positions subject to audit by the State Personnel Board; provides interpretation of laws, rules and policies in the personnel field; counsels with employees in regard to classification, examination, and personnel problems and grievances; coordinates examination scheduling and administers delegated testing program.

Transactions Unit

Administers personnel transactions and attendance reporting program; coordinates health benefits, insurance, retirement and deferred compensation programs; maintains position control system; administers employees health, accident and disability insurance programs; and maintains personnel records.

Fiscal Office

The Fiscal Office prepares financial statements and reports; collects and deposits all cash receipts; provides accounting services to the commission staff; and also provides the liaison with the Department of Finance, State Controller and other agencies responsible for establishing and regulating the financial operation of the State.

Budget Office

The Budget Office prepares and administers the commission's annual budget; coordinates contractual services and interagency agreements; provides the liaison with the Department of Finance and with the Legislative Analyst; and reviews and identifies the fiscal impact of proposed legislation.

Data Processing Branch

Data Processing activities were transferred to the Management Services Division from the Transportation Division to permit a more effective support of all divisions of the commission.

The Branch activities continue to increase at an accelerated rate, with the level of support to the Transportation Division remaining relatively constant to those of prior years and support to other divisions increased considerably.

New equipment will permit the Data Processing Branch to develop a realistic three-year plan for data processing support. Computing capability will increase more than 50 percent during this three-year period, with cost remaining at the same level as for 1976–77. This in-house system will allow programs to be written and new applications to be undertaken that were not possible in prior years.

Programming Section

This section maintains existing programs, specifies, writes and tests new programs; writes and maintains program documentation; and participates as technical experts in specifying hardware capability requirements.

Operations Section

This section operates the computer; punches cards from input documents; runs production jobs; writes and maintains run instructions.

Systems Analysis Section

This section maintains the library of system and program documentation; writes system specificiations; with the customer, identifies new EDP applications; writes feasibility studies.

Administrative Services Branch

As an integral part of the Division, this Branch is responsible for a wide variety of staff functions and general organizational support for the commission.

Training Office

This office plans and develops programs for PUC employees at all levels. In addition to continued emphasis on technical and professional development, programs in a number of other areas have been developed and improved. These include training in becoming an expert witness; accounting for attorneys, engineers, transportation specialists; ratemaking; organization development; writing skills; skills training programs in Business English, office skills and stenography, as well as speedreading.

Word Processing Services Center

The center, as a centralized support function, provides word processing services for the entire staff at the commission's headquarters.

Management Analysis Section

The roles of the Management Analysis Section are to help management find better ways of doing its work and to allocate its human and physical resources to their ultimate advantage.

The Management Analysis Section conducts management studies of organizational units or operations of the commission and recommends new or improved procedures. Studies include program definition, organization and communication, policy and procedures, space, machine and equipment needs, laws, and regulations, costs and other management controls. Develops and implements responsive informational systems that are timely and capable of meeting the informational needs essential for Commission planning and control purposes. Provides consultant services to PUC management for the development and revision of all forms. Also the section

Automatic billing is achieved in the processing of long distance telephone calls by a Traffic Service Position operator merely pressing a button which automatically registers the time and charge. This installation is on the Bell System.

administers the commission's Record Retention Program and acts as Agency coordinator for the Merit Award Board.

Design Services

The Design Services create and produce a variety of complex charts, graphs, and designs displaying a multitude of engineering principles and other concepts which are used in complex reports and exhibits.

Business Services Section

The section processes commission mail; processes the printing and mailing of minimum rate decisions to all highway carriers; provides for the internal mail/messenger services; arranges for the purchases and distribution of supplies and equipment; maintains the central (formal) files; controls the property and property inventory; provides staffing support for the Executive Area Receptionist Desk; and handles the commission document sales.

Southern California Office

The Southern California office handles staff work on applications and complaints of utilities and their customers in nine southern counties. headquartered in Los Angeles, the staff of about 150 serves over half the state's population.

The *Assistant Executive Director* heads the office and is primarily responsible for communication between the Southern California staff, the general public, governmental figures, utility companies, civic, consumer, and environmental groups, as well as the commissioners and the headquarters staff.

During 1979–80, the six *Administrative Law Judges* in Los Angeles prepared over 100 draft decisions for the Commission's consideration, most of them based on evidence developed at 400 days of public hearings throughout Southern California.

Consumer Affairs handled 18,600 complaints, resulting in favorable adjustments to customers of over $246,600. Another 13,066 complaints were referred to utility management for resolution. Numerous staff recommendations were adopted involving changes to utility tariffs and practices which were of no benefit to customers.

The *Communications* staff participated in the General Telephone general rate case and reviewed workpapers relating to Continental's notice of intent to file for a rate increase. The staff continued its surveillance of operations and service indices of both companies, as well as Southern California areas of Pacific Telephone. Proposed new tariffs of all three companies were reviewed, and technical communications problems were investigated.

The *Electric* branch testified in Southern California Edison's general rate case and participated in Edison's energy cost adjustments. Studies were undertaken on a proposed transmission line to connect San Diego Gas & Electric with Arizona generating stations. The *Load Management* staff prepared (and later received) a funding request to the federal government for agricultural load management and innovative rate studies. Work also continued on time-of-use rates.

Safety compliance inspections were conducted by the *Gas* branch along pipelines of Southern California Gas and the southern area of Southwest Gas. Construction of new facilities and pressure tests were also witnessed, and investigations into consumer complaints were conducted.

The *Revenue Requirements* staff handled major portions of the work on general rate increases for Edison and Southern California Gas, as well as balancing account applications. The year also saw expansion of the Los Angeles branch into audits and special studies of the major telephone companies in California.

In Transportation, the *Compliance and Enforcement* section in Southern California conducted 1,460 surveys of carrier operations and handled 48,651 inquiries about licensing and tariff matters and rate questions. They processed 872 permit applications, 145 household goods complaints, and 388 complaints about shipment of other commodities.

The *Freight Economics—Cost* staff participated in establishing new production areas, delivery zones and zone rates for transportation of rock, sand, and gravel in the Santa Maria area. New cost studies for dump trucks in that field were developed, and other work was undertaken pursuant to transportation of waste liquids and cement.

The *Freight Economics—Rates* staff prepared a monitoring program to identify potential service problems regarding trucking service to small communities in connection with the reregulation plan. The program will also evaluate other potential problems, e.g., price competition among carriers and market concentration in the for-hire motor carrier industry. The program was submitted to the Commission in June, 1980, and was adopted on July 15.

The *Passenger Operations* staff, working under new Commission policy which encourages competition, helped to process 71 applications for new bus routes, extensions of existing routes, and fare increases, especially in the charter-party, sightseeing, home-to-work, and airport service areas. A significant decision for Southern California was the granting of a certificate to American Buslines for intrastate routes already served by Greyhound.

Railroad Operations & Safety personnel inspected tracks from Fresno to the Mexican border and from Los Angeles to the Arizona-Nevada line, which resulted in 2,870 corrections of conditions at variance with Commission orders on clearances and walkways. The staff also handled 118 informal complaints on unsafe operating conditions and investigated derailments, observed efficiency testing, and monitored construction at railroad crossings and grade separations.

Over 950 safety surveys were made by the *Traffic Engineering* staff at railroad crossings in 10 counties, and 122 meetings were held with city, county, and state agencies, as well as railroads, on safety issues. 25 applications for new grade crossings or separations were processed, and the staff investigated 30 motor vehicle-train accidents at grade crossings. Considerable assistance was given to the San Diego Metropolitan Transit Board in design and operation of a light rail public transit system known as the Tijuana Trolley.

COMMUNICATIONS DIVISION

The Communications Division is responsible for administration of commission orders and utility tariffs for all privately-owned communications utilities in California. Communications utilities comprise approximately 45% of the public utility industry in California, the largest utility being Pacific Telephone and Telegraph Company, which provides approximately 80% of the communications service in California.

The primary objective of the division is to assure that California ratepayers are receiving the best possible service at the most reasonable cost. To carry out its responsibilities, the Division is organized into two functional branches, Rates and Surveillance. The Rates Branch has the responsibility of reviewing utility tariff filings for new services, the development of separations plans, development and presentation of rate spread evidence in major rate proceedings, analysis of Federal legislation, and liaison with the Federal Communications Commission (FCC). The primary responsibility of the Surveillance Branch is participation in major communications rate proceedings under the Regulatory Lag Plan in cooperation with the Revenue Requirements Division.

Due to technological developments, regulatory changes, and legislative proposals, communications nationwide are in a state of rapid change. Prior to 1968, the telephone utilities had exclusive franchises to furnish all telephone service from the point of origin to termination. The 1968 decision of the FCC allowed connection of telephone stations owned by customers, and subsequent FCC decisions have authorized new toll carriers to compete in the intercity message toll business. Through its April 1980 decision, the FCC has mandated deregulation of all telephone terminal equipment by March 1982.

Congress proposed legislation that would deregulate telephone terminal equipment, assign intrastate message toll jurisdiction to the FCC, and require other extensive changes in the operation and industry structure of communications in the United States.

In anticipation of the effects of regulatory and legislative changes, a comprehensive restructuring of telephone rate patterns is now taking place, with the California PUC recognized nationwide as one of the leaders in this rate restructuring. It is of utmost importance that the changes necessary to accomodate the regulatory changes due to FCC and legislative action be done in a manner consistent with the commission's mandate of providing reasonable and nondiscriminatory rate structures for the benefit of the general public.

Major Rate Issues

Pacific Telephone Interim Rate Order

The commision in April 1979 issued an interim order in Pacific Telephone's Application No. 59269 granting $227 million in rate increases subject to further hearing and possible refund. The order provided that the rate increase would be in two segments, a basic amount of $158 million to cover generally increased costs and an additional amount of $69 million applicable only to competitive services to reflect increased marketing costs resulting from the competitive nature of the terminal equipment market. The basic increase includes increases in message toll service, some terminal equipment, private line service, nonrecurring charges and basic exchange rates. The basic exchange rate increase resulted from the establishment of a 60 cent per month charge for the main telephone instrument which had previously been included in the monthly exchange rate. This split charge for the station instrument is the first step toward unbundling the basic exchange rate and ultimate deregulation of terminal equipment.

The additional $69 million increase was reflected in nonrecurring and monthly charges associated with competitive terminal equipment offerings. The intent of the order was that no increase would be greater than 50% and that no rates would exceed the fully allocated costs of providing the service including a 15% rate of return. The utility also was ordered to file cost studies on each item of terminal equipment increased, and where the increased rates exceeded the costs, the rates were to be reduced with the excess monies to be refunded to the customers. At the end of the fiscal year, preliminary data indicated that approximately a third of the $69 million would be subject to rate reductions offset by increases in certain other terminal equipment service rates.

Tax Remand Refund

On September 13, 1977, the commission issued its Decision No. 87838 directing Pacific and General Telephone companies to refund certain amounts of money to customers and to file reduced rates and investment tax credits. The refunds and rate reductions were the result of the commission's determination of the appropriate rate-making treatment to be accorded accelerated depreciation. Decision No. 87838 was stayed pending several court appeals. When all appeal avenues were exhausted in 1979, the commission proceeded with hearings on specific refund and rate reduction plans. These resulted in Decision No. 91337, issued February 13, 1980, requiring refunds by Pacific amounting to approximately $360 million, and $86 million by General Telephone. Initial refunds of a maximum of $35 per customer were distributed in the second quarter of 1980. Final refunds due customers are to be paid by the second quarter of 1981.

On the issue of prospective rate reductions, the commission decided to fix a cap on Pacific's and General's potential future tax liabilities. It accomplished this by providing that future rates will be set on a full normalization basis subject to refund pending the results of litigation before the Internal Revenue Service.

Zone Usage Measurement

In 1979 the commission, by Decisions Nos. 90642 and 90919, ordered establishment of a new calling plan in the San Francisco-East Bay, San Jose metropolitan area and the Los Angeles metropolitan area. The plan had been proposed by the commission staff to develop a unified measured, extended calling service for business and residence subscribers. Previously, local service was provided for calls made to the subscriber's local exchange, to adjacent exchanges, and to noncontiguous exchanges up to a distance of eight miles between rate centers. For distances beyond the local calling area up to 16 rate miles, multimessage unit (MMU) service was applicable. Under MMU service the charges for a call were measured in message units which increased with the length of conversion. The same MMU rate was applicable all hours of the day and all days of the week with no discount at off-peak hours. The charge per message unit was priced the same as a message unit on a local call but the units on MMU calls were not deductible from the message unit allowances included in the subscriber's basic rate.

The new plan ordered by the commission is designated Zone Usage Measurement or ZUM (pronounced "Zoom"). Under the ZUM plan the 3-MMU and 4-MMU routes are converted to zones of local calling applicable to calls from all types of services, except coin service, and zone calling usage is included in the usage allowance for measured rate services on the same basis as local usage.

Three ZUM calling zones are established for each exchange. Zone 1 includes the subscriber's local exchange, contiguous exchanges, and noncontiguous exchanges, or district areas, where the distance is eight airline miles or less between rate centers. Zone 1 generally includes all of the previously designated local calling area. Zone 2 includes interexchange routes between 9 and 12 miles. Zone 3 includes interexchange routes between 13 to 16 miles.

In addition to providing an integrated rate structure with local calling rates, ZUM provides off-peak period pricing. The telephone system is designed and constructed to carry peak calling loads which typically occur in mid-morning and mid-afternoon on business days. An incentive for customers to call at off-peak periods is provided by lower off-peak ZUM rates consisting of 35% discount in the evening and 60% discount at night and on weekends. The day rates apply between 8 a.m. and 5 p.m., evening between 5 p.m. and 11 p.m., and night between 11 p.m. and 8 a.m. plus all day Saturday, Sunday and holidays.

Optional Residence Telephone Service

Optional Residence Telephone Service (ORTS) is an optional offering of wider calling areas that is now offered in the San Francisco and Los Angeles areas. ORTS is a product of the computer age because it is just a rearrangement of the manner in which toll and ZUM calls are charged. A customer subscribing to ORTS dials his calls in the same manner and uses the same equipment as a customer who does not subscribe to ORTS, but his bill is computed by properly programming the computer. Therefore, other than connections made in the computer programmer, there is no permanent change of switching or trunking required. In June 1980, the basis of providing ORTS was changed to eliminate flat rate options and to bill all ORTS on a measured rate basis. All new ORTS customers are placed on measured ORTS, and existing flat rate customers will be converted by March 31, 1981.

Optional Calling Measured Service

Because of the relatively high monthly rates that are necessary to recover the cost of Extended Area Service (EAS) in nonmetropolitan areas, there are few areas remaining where there is sufficient public acceptance to warrant establishing nonoptional EAS. However, to meet the special requirements of some residential customers, Optional Calling Measured Service has been introduced.

Optional Calling Measured Service is furnished as an adjunct to residence individual-line flat rate service and provides for customer dialed communications to one or more exchanges or district areas designated by the customer up to a distance of 40 rate airline miles. For a fixed monthly rate, the service provides for unlimited calling to the designated service area between the hours of 8 p.m. and 8 a.m. daily and two hours of cumulative calling each month between the hours of 8 a.m. and 8 p.m. Overtime is charged for each additional minute of calling over this two-hour monthly allocation.

As of November 9, 1979, OCMS service was available in 49 listed exchanges of Pacific Telephone involving 128 specific toll routes. By Decision No. 90642, dated July 31, 1979, Pacific Telephone was authorized to expand the offering of OCMS by an additional 315 routes by the end of 1982. This service is also offered by several independent telephone utilities.

Directory Assistance Charge (411)

Pacific Telephone Company filed its Application No. 58918 on June 9, 1979, seeking commission authority to apply charges for customer calls to directory assistance. Pacific's proposal would provide a monthly allowance of 20 such calls for each customer line and a charge of 15 cents per call in excess of the allowance. They would exempt handicapped individuals, hotel and motel guests, and users of pay stations. After a number of days of public hearings, the application was submitted for decision for March 1980. Decision No. 92108, August 19, 1980, approved Pacific's proposal.

Metropolitan San Diego Calling Arrangements

With the growth of population in many areas of the state, existing telephone calling arrangements do not always meet the needs of the public. For example, suburban growth in the San Diego area has extended northward along Interstate 15 so the San Diego metropolitan area may be considered to extend beyond the established San Diego extended calling area. At the same time, city limits have expanded to include many new developments. For instance, the City of San Diego has been extended to include the Poway exchange with the result that residents in that area must pay the 17 cents for the first-minute day toll call to reach neighbors just a mile or so away, also within the City of San Diego. The staff is working to secure interim revisions in the calling arrangements pending a full-scale review of the entire San Diego area. Other problem areas are in the vicinity of Riverside, Stockton, and several other metropolitan areas throughout the state.

New Developments

Rewrite of Federal Communications Act

During the past year there have been bills pending in both Houses of Congress to revise the Communications Act of 1934, which governs interstate communications and the FCC. These bills would provide for extensive deregulation of both customer premises' terminal equipment and intercity communications services. While the proposed bills call for some restructuring of the Bell System, they also open the door for the Bell System to compete in the computer and data processing field as well as in other areas from which it was excluded by a 1956 anti-trust consent decree.

Both bills contain provisions which would shift the cost burden from the toll operation to the local exchange operation, by placing a limit on the amount of exchange costs assigned to interstate operations under present telephone separations procedures. (Separations procedures are the means whereby an appropriate allocation of costs is made to the toll operations in recognition of the use of the local exchange in originating and terminating toll messages.) In addition, the bills would transfer jurisdiction over intrastate toll service to the FCC. This would result in a further loss of support for the local exchange operation. While long distance telephone users should enjoy reduced toll rates by virtue of this shift, the commission staff estimates that in the first year it will require an increase in monthly exchange rates of almost $6 per month.

Another effect of the bills would be to prescribe telephone exchange areas at the federal level under a rigid formula. It is possible that these revisions would reduce or eliminate many of the extended area and optional calling plans now utilized by California subscribers in meeting their day-to-day calling requirements. The bills were still in committee at year's end, but it was expected that the House bill would be reported out before the end of 1980. The PUC urged the California Congressional Delegation that appropriate changes be made to the bills to minimize the adverse effects of the proposed legislation noted above.

Handicapped Services

Beginning in the fall of 1979, Pacific Telephone began an expanded program of providing communications services for the handicapped, pursuant to commission order and state legislation. The principal features of this program are as follows.

All tariff items which assist the handicapped in the use of the telephone network are now available to such persons at 50% of the conventional monthly rate. A method of certification has been developed, to avoid abuse of the program by persons not entitled to special rates.

All user-connectable equipment items for the handicapped are now available through the Phone Center on request by a customer; this avoids the additional cost of premises visits to the handicapped subscriber.

The Handicapped Centralized Assistance Points operated by Pacific Telephone and General Telephone have been augmented to provide other services in addition to the original business office functions. New services include a 24-hour operator service provided by Pacific, which enables deaf subscribers employing teletypewriter devices to make credit card and collect calls, third-number calls, person-to-person calls and to have access to information services and to emergency agencies. Prior to this, it has not been possible for a deaf user of a teletypewriter to make any use of the network requiring operator intervention or assistance.

Additionally, the teletypewriter users now have a 24-hour number which can be called toll-free to reach repair service. This, again, has not previously been available to the deaf user.

Apart from PUC-initiated programs, the Legislature passed Senate Bill 597 which was signed by the Governor on September 28, 1979; this law, now Public Utilities Code Section 2831, requires the commission to "design and implement a program whereby each telephone corporation shall provide a telecommunications device capable of servicing the needs of the deaf or severely hearing impaired, together with a single party line, at no charge additional to the basic exchange rate" to qualified deaf persons. The commission has a period of four years, from January 1, 1980, to phase in the program.

Since this program extends to all 26 wireline telephone utilities, and since also it is essential that it be implemented on a fair and equitable basis to all members of the deaf population, it has been necessary to initiate a series of studies and investigations to develop the necessary elements of a workable program. On May 6, 1980, OII No. 70 was issued by the commission, and the prehearing conference was convened on June 20, 1980. Numerous organizations and individuals appeared at the conference, including equipment manufacturers and representatives of deaf organizations, as well as the respondent utilities. Evidentiary hearings are scheduled to begin in August 1980.

Additionally, starting in August 1980, Pacific Telephone will conduct a pilot program in the Fremont area to test and refine procedures for implementing the overall plan. This requires, for example, the recruiting and training of persons who can communicate by sign language with deaf customers, and development of methods of informing the deaf community of the availability of the deaf users in the use of the telephone network and of the teletypewriter equipment itself.

Electronic Data Processing

During this fiscal year significant progress was made in the area of automated data retrieval interactive programming and computer graphics. Based on a paper submitted by a member of the Communications Division entitled "A Computer-Based Approach for Utility Surveillance" at the first NARUC Biennial Conference held in Columbus, Ohio, in October 1978, the staff initiated and supervised the development of a user-oriented interactive computer program. This program was completed in April 1980 and, at this time. has no rival among utility regulator commissions anywhere in the nation. This program includes statistical analysis and computer graphics in a package that is advanced in concept yet simple to use. The universality of the program makes it available to any type of utility.

It is Communications Division's policy to automate as much of its work load as possible. Jobs that are candidates for automation are those that involve a set procedure that is performed enough times to justify the cost of automating it by a computer. The division is developing future EDP applications which will involve computer-aided decision analysis via simulation of each major utility.

Fiber Optics Transmission

Employment of fiber optics in telephone transmission is out of the development stage and into system use. Such lightwave systems have the following important advantages for telecommunications:

1. Greatly increased message capacity.
2. Long distances between repeaters.
3. Small, lightweight cables.
4. Immunity to electromagnetic interference.

Most current applications such as the "FTe" system installed in the Sacramento area are in the intermediate distance range from several miles to several tens of miles.

Continued evolution is also anticipated in lightwave technology itself. Longer wavelength systems resulting in lower-loss fibers and longer repeater spacings, more efficient sources and detectors incorporating a higher degree of circuit integration, and optical components allowing direct processing of lightwave signals are anticipated. Thus, as economical first generation lightwave systems are coming into service, continued research is paving the way for an even broader range of future applications.

DEREGULATION

FCC Ruling on Deregulation of Terminal Equipments

In April 1980, the Federal Communications Commission issued a far reaching decision in its computer inquiry (Docket No. 20828). Among other things, the order found that all customer premises equipment, including the basic telephone instrument, were subject to the sole jurisdiction of the FCC. Such terminal equipment had heretofore been regulated exclusively by the states pursuant to intrastate tariffs. The order provided that by March 1, 1982, all carrier provided terminal equipment must be unbundled from other service rates and detariffed. At the same time the investment in terminal equipment must be removed from utility rate bases and from the separations and settlements process.

The PUC at various times has indicated that it favors the deregulation of terminal equipment. However, the FCC order creates a number of problems due to the short time period provided. In addition, the loss of this investment for separations and settlement purposes will result in a shift of $145 million of revenue requirements from the interstate toll rate base to the local exchange rate base with additional shifts taking place between intrastate toll and exchange. Such shifts will result in a requirement for increased exchange rates. Because of the effects, California filed a petition for reconsideration of the FCC order.

The FCC recognized that the separations effects of its order could have a detrimental effect on exchange rates. Accordingly, the FCC has instituted another proceeding (CC Docket No. 80-286) to consider changes in separations resulting from the deregulation of terminal equipment. It is anticipated that a California commissioner will be appointed to the Joint Board, and the commission staff plans to participate at the staff level. The Joint Board will also consider separations changes which may be affected by an FCC proposal to put access charges on all interstate private line and foreign exchange terminations which are used as a substitute for interstate toll.

The commission staff has been working with the various California telephone utilities to provide separate monthly charges for the telephone set and for the subscriber line. This will allow for detariffing of the terminal equipment including telephone sets when deregulation applies.

Since July 1, 1979, the FCC has required all new single party business and residence telephone services be connected through standard miniature modular jacks. This requirement is applicable whether the terminal equipment is provided by the utility or by the customer. The required installation of modular jacks permits customers who choose to own their telephone instruments to easily connect the equipment without additional expense. As a result of the FCC requirement, California telephone utilities are restructuring service connection charges to reflect the costs savings available from prior installation of modular jacks. The new rate structure encourages customers who choose to use utility equipment to pick up the modular telephone instruments at a central location to eliminate the costly visit by utility personnel to the customer premises. To facilitate the economic choice to be made by new customers, the utilities are converting existing hardwire connections to modular jacks. The Communications Division has developed a new service connection rate structure which can be adapted to all of California's telephone utilities.

Yellow Pages Deregulation

On January 1, 1980, the PUC jurisdiction over telephone directory advertising came to an end.

The commission has had jurisdiction in this area for over 50 years since a 1926 ruling by the California Supreme Court established that telephone directories were an essential instrumentality in connection with the rendering of telephone service. During the years following the court's decision, the commission undertook comprehensive regulation of the rates, form and content of both alphabetical listings (white pages) and the classified listings (yellow pages) of all telephone directories. California was the only state which regulated directory advertising.

Recent years have seen the advent of a greatly increased number of secondary directories, dubbed neighborhood directories, produced by both telephone companies and others. These neighborhood directories cover smaller areas than the conventional white and yellow page wide area directories and, thus, were promoted as being more convenient to users for locating products and services close to home. Where neighborhood directories were published by the local telephone company or an affiliate, they were regulated by the commission. Where published by a telephone company affiliate outside the franchised area, or by a nonutility company, they were free of regulation. With the passage of Senate Bill 301, all types of directories will now be free to compete untethered by regulation. The commission still retains jurisdiction over all phases of white page telephone directories except white bold type listings which are considered advertising.

Senate Bill 301 added Section 728.2 to the Public Utilities Code specifying that "The commission shall have no jurisdiction or control over classified telephone directories or commercial advertising included as part of the corporation's alphabetical telephone directories, including the charges for and the form and content of such advertising . . . "Section 728.2 further directs that in California, as in other states, the commission ". . . shall investigate and consider revenues and expenses with regard to the acceptance and publication of such advertising for purposes of establishing rates for other services offered by telephone corporations." The profits from directory advertising contribute tens of millions of dollars annually to offset the costs of other services and help keep basic service rates low.

The legislation enacting Section 728.2 contains a sunset provision calling for automatic resumption of directory regulation on January 1, 1983, unless it is extended or deleted before that time. It also directs the commission to study and report to the Legislature by January 1, 1982, on the impact of deregulation upon competition in the telephone directory advertising industry.

ENERGY CONSERVATION

The telephone utilities are continuing to make great strides in the area of energy conservation. Pacific Telephone, for example, reduced its total electrical usage in 1979 to 3.6% below 1973, even though the number of telephones increased by 31% in that time period. It also reduced its building fuel usage in 1979 to 69.3% below the 1973 level while floor space increased 16%. Between 1973 and 1979, the utility decreased its total energy usage per 1,000 customers' lines by 36.2% saving approximately $99 million.

Pacific Telephone accomplished this impressive improvement by instituting programs such as BEMARR (Building Energy Management and Redesign Retrofit) which made buildings and associated envirionmental systems more efficient. Other programs such as driver training, use of solar energy, conversion of motor vehicle fleet to subcompact cars, hot water conservation and use of electric vans, are just a few of the many programs Pacific has implemented.

Other telephone utilities are likewise making great savings in energy with their own innovative ideas and programs. General Telephone, for example, started conversion of its motor vehicle fleet to subcompact cars and small trucks back in 1973, before the first energy crises. Other innovative programs such as using urethane roof insulation, using small electric trucks and peak period shaving of electric usage from utility suppliers through the use of emergency power generators, represent just a small sampling of General's programs.

All these programs, while energy conserving, also reduce the utilities' operating costs and, consequently, have a favorable impact on both rates and environment.

The sophisticated communication network of the telephone companies also provides an opportunity for every California resident to reduce their own energy usage, especially gasoline consumption, by using the telephone more. A few of the other energy saving possibilities in use include using telephone lines to transmit data to terminals installed in the home, and ATT&T's PMS (Picturephone Meeting Service) centers (Pacific expanded to three centers in 1979). PMS centers provide two-way visual communications via television screens to permit people in distant locations to conduct meetings. Six people can actively participate at each center with automatic voice activated cameras, pushbutton controls, audio visual aids and hard copy machines with room for observers. Such PMS meetings can very effectively provide a substitute for high energy travel. Future planned technological innovations using the communications network can have dramatic effect on future energy consumption when they are implemented.

New Approaches

Deposit Practices

Pacific Telephone, by Application No. 59753, filed June 23, 1980, seeks to revise its billing, collection, credit and deposit practices applicable to residence service. Except for minor revisions, Pacific's tariff rules on file with the commission which govern these activities have remained unchanged for decades. Pacific states its proposals, which have not yet gone to public hearing, are designed to provide objective, more easily understood procedures for billing, collection and establishing credit.

Prewiring by Others

On January 10, 1980, the New York Public Service Commission ordered all telephone companies to offer their customers an opportunity to own or install simple premise telephone wiring rather than pay an installation fee and a continuing monthly charge for the use of company-installed wiring.

Based on New York's decision, a formal complaint (Case No. 1833) was filed against Pacific Telephone concerning existing tariff Schedule 36-T, Rule 16. Parts of Rule 16 being contested are the 10-day installation notice and the refusal to connect its facilities or instruments with interior wiring not installed by PT&T.

On April 25, 1980, Case No. 10833 was temporarily removed from the calendar due to PT&T's agreement to revise Rule 16 to provide customers the opportunity for either a licensed customer to install simple premise telephone wiring. As of this date, the revisions received from PT&T are under staff review.

Other Formal Proceedings

Continental's NOI-27

Continental Telephone Company has tendered an NOI on April 30, 1980 for a $12.2 million general rate increase. (The NOI was formally accepted on July 17, 1980.)

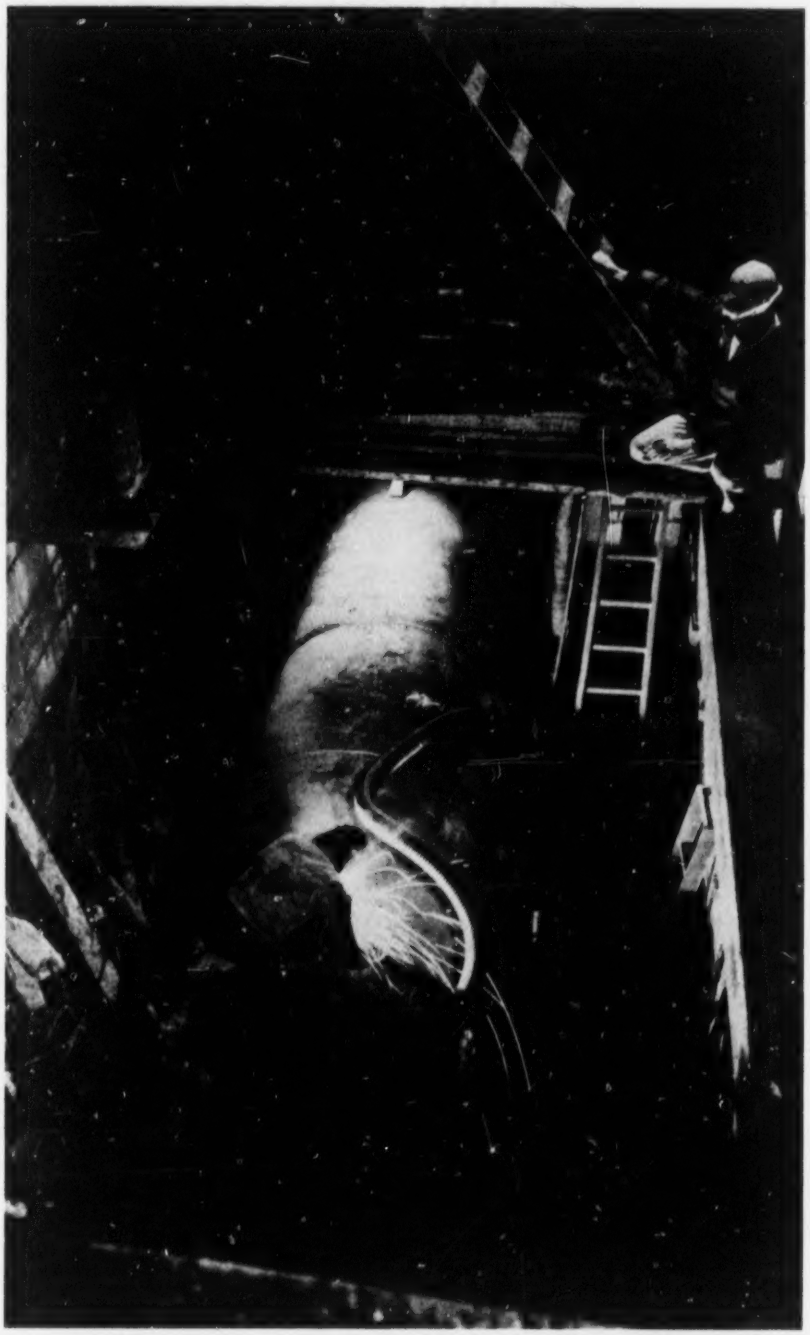
General's NOI-6

General Telephone Company filed an application (No. 59132) on November 15, 1979 for a $119 million general rate increase.

Public hearings were held throughout the service area in late 1979 and early 1980 and regular hearings followed. The main issues were the quality of phone service, allowed rate of return, the level of maintenance expenses and the inclusion of Construction Work in Progress in rate base. After the matter was submitted, the company filed a request for an interim rate relief citing financial considerations as the cause. A commission decision in this proceeding is expected on or before November 14, 1980.

Pacific's NOI-23

On June 1, 1980, Pacific filed its NOI-23 seeking rate increases amounting to $795 million annually. (The NOI filing was followed by Application No. 59849 on August 1, 1980.)



This major undergrounding project of Pacific Telephone and Telegraph Company in San Francisco will provide telecommunications services for new developments, including office buildings, hotels, and the Moscone Convention Center. The installation shown here is a part of the total construction that when completed will involve 382 million conductor feet of cables and conduits.

REVENUE REQUIREMENTS DIVISION

On July 1, 1979, the former Operations Division and Finance Division were combined to form the Revenue Requirements Division.

It is responsible for regulation of the rates of major communications, water, gas, electric and steam utilities. These include general rate increases to improve earnings, offset proceedings and review of various revenues and expenditures having significant effect on earnings.

For the fiscal year 1979–1980 these utilities served 25.8 million customers, collected more than $17 billion in gross revenues and had $34.6 billion in gross plant devoted to public utility operations.

During the past year the consolidation of the divisions encompassed improved coordination between the disciplines of the professional staff, eliminating areas of duplication and providing a more comprehensive analysis of utility operations and financial position in the regulatory process. These areas covered financial analysis, engineering analysis and economic analysis functions.

The engineering analysis portion of the division is organized on a team concept of project groups—gas, electric, communications and water utilities—a depreciation unit and an economics unit. The financial analysis portion of the division performs audits in response to applications filed by the utilities for increases in rates and advises the commission on auditing, accounting, financing, securities, economic, tax and rate of return matters. The division is also the central unit in the PUC's Regulatory Lag Plan, ensuring that rate increase applications are acceptable and processed in the most expeditious manner.

Each project group consists of teams assigned to specific utilities or to depreciation or economic studies and continuously monitor in particular utilities, conduct productivity, efficiency and econometric studies, perform engineering operational audits, and provide witnesses and support as necessary for utility rate cases.

Energy Branch (Engineering)

The fundamental role of the Engineering Analysis Energy Branch is to regulate the rates of the major privately owned California electric, gas and stream heat utilities. The primary activity to accomplish this objective is the preparation and presentation of Results of Operations reports in general rate cases. The Branch also conducts various special engineering, economic, and depreciation studies on a routine basis or at the request of the Commission.

All the Results of Operations reports in major rate cases are completed in accordance with the commission's Regulatory Lag Plan. This plan was adopted by commission Resolution A-4693 on July 6, 1977, in order to expedite rate proceedings. According to the plan the length of time between the filing of an application and the day a decision is rendered is limited to one year.

The Regulatory Lag Plan includes six major energy utilities. In 1979 these utilities served 14 million customers, collected $9 billion in gross revenues, and had $17 billion in gross plant devoted to utility operations. On June 5, 1979, the initial Regulatory Lag Plan was amended by commission Resolution M-4706. The most important modification was a commitment to a minimum of two years between rate proceedings in order to recognize the realities of the commission's staffing and permit the commission to have a reasonable opportunity to have new rates go into effect at the start of the test-year. In recent filings attrition allowances have been requested by utilities to offset anticipated eroded earnings between general rate cases.

During 1979–80, the professional staff of the Energy Branch participated as expert witnesses for hearings in five major general rate cases and commenced rate studies with respect to two other utilities. Of the five companies for which Results of Operations reports were prepared, three of the filings were covered by the Regulatory Lag Plan. Of the two medium size utilities requesting an increase, one filed for rate increases in five districts.

Communications Group (Engineering)

During the year the Communications Group undertook the investigation of The Pacific Telephone and Telegraph Company (Pacific) under NOI 23, General Telephone Company of California (General) under NOI 6, as well as Continental Telephone Company of California (Continental) under NOI 27. The investigations were undertaken with project managers assigned from this group. For these companies, the support staff of this group evaluated combined rate base in excess of $11 billion, reviewed depreciation of about $900 million and analyzed administrative and general as well as affiliate related expenses totaling over $350 million.

Pacific Company test year 1979 rate proceeding A58223 was decided in July 1979. On rehearing of the rate of return portion, Pacific was awarded an increase of $37 million.

In November 1979, Pacific filed an application requesting a $336 million increase which was later modified to $337 million. Preliminary study by staff indicated $157 million was a reasonable increase, and another $70 million was permissable if Pacific would assign all marketing costs associated therewith to the terminal equipment customer. The commission awarded the company $227 million subject to refund and the matter was consolidated for further study under the subsequent NOI 23 filed June 2, 1980.

On August 1, 1980, Pacific filed

The following tabulation provides a summary of the Energy Branch's progress in meeting the schedule of the Regulatory Lag Plan since the plan's inception in July 1977:

Utility	Date of Filing Application	Status	Days Plan	Days Actual
PG&E	9/23/77	Hearings Completed	195	201
		Decision Issued*	365	346
		*Partial Increase Granted 12/20/77		
So. Cal. Edison	10/ 7/77	Hearings Completed	195	227
		Decision Issued*	365	424
		*Partial Increase Granted 7/25/78		
So. Cal. Gas	10/28/77	Hearings Completed	195	196
		Decision Issued*	365	410
		*Partial Increase Granted 8/8/78		
Southwest Gas Corp.	2/ 5/78	Hearings Completed	195	184
		Decision Issued	365	298
San Diego Gas & Electric	5/15/78	Hearings Completed	195	190
		Decision Issued*	365	385
		*Partial Increase Granted		
So. Cal. Gas	12/10/79	Hearings Completed	195	210
		Decision Issued	365	365 **
So. Cal. Edison	12/26/79	Hearings Completed	195	197
		Decision Issued	365	365 **
Southwest Gas	12/31/79	Hearings Completed	195	80
		Decision Issued	365	365 **

**Estimated.

Application 59849 (NOI 23) requesting a $795 million increase based on a 13.47% rate of return and pleading that the increase is essential for financial strength in securing enormous amounts of capital ($5.5 billion for the combined years 1981 and 1982) to meet service demand as well as provide a reasonable return on this invested capital. The staff investigation of this request is continuing.

The General investigation was predicated on a request for $119 million in rate relief based on large construction programs, a large increase in the work force, inflation and high cost of construction funds. Based on its analysis the staff recommended only a $45 million increase, noting low employee productivity, poor service, and the lack of a concerted effort to install the latest digital telephone technology.

In its filing, General requested inclusion of plant under construction (but not operating) as part of its rate base. This request costing $25 million annually was opposed by the staff as of questionable benefit to customers.

An unusual recommendation by the staff that General employees not be permitted to indiscriminately transfer after 1 year of service, in view of the consequent drop in productivity, was strongly opposed by the Communications Workers of America.

The Continental filing requested $12.2 million in rate relief also pleading large construction programs, inflation, growth in the employee force, and high cost of construction funds. The staff investigation of this company is in process.

Energy Branch (Financial)

The staff of the Energy Section is responsible for the auditing of the accounting and financial records of electric, gas and water utilities. The audits are usually performed in response to applications filed by the utilities for increases in rates. Because of the unstable energy supply problems and the cost of fuel, the commission revised its priorities from general rate cases to special fuel offset procedures.

The Energy Section was reorganized to meet these new priorities beginning 1980 and reassigned its Financial Examiners engaged in general rate matters into special units in the Energy Branch to handle special energy offset applications only. In addition to special ratemaking procedures, the Energy Branch also participated in the general rate applications of Southern California Gas Company, Southern California Edison Company, and San Diego Gas & Electric Company.

The tabulation on the following page sets forth the rate applications filed by major California energy utilities during the fiscal year from July 1, 1979 through June 30, 1980 in which the Energy Section participated.

In addition to the rate case audits, the Financial Examiners in the Energy Section participated in (1) OII 56—an investigation instituted by the commission on electric utility Energy Cost Adjustment Clause (ECAC) tariff and the changes, if any, that should be made to improve its procedures; (2) Case 9902—an investigation into the Water Main Extension Rule Revisions; (3) Case 10260—Revisions to Main Extension Rules 15 and 16 for gas and electric utilities; (4) Application 58792—a request by Pacific Gas and Electric Company for approval of certain exploration projects in the Rocky Mountains; and also a number of proceedings involving certification and rates of water utilities.

Communications and Transportation (Financial)

During the year the Communications Section audited Pacific Telephone Company, the largest operating telephone company of the Bell System, and General Telephone Company of California, the largest of General Telephone's operating companies, in connection with rate increase requests in excess of $1 billion.

Each of the major telephone companies has a number of affiliates. Increasingly, substantial charges have been allocated to these operating companies by their affiliates for engineering, accounting, marketing services, etc. For example, the charges to Pacific in 1976 were $59 million and it is now projected at $122 million, a 100% increase.

Because of the absence of arm's-length relationships, it was necessary to conduct direct examinations of the utilities' affiliates—Bell Laboratories, Inc., Western Electric Company, American Telephone and Telegraph Company, and GT&E Service Corporation to determine the reasonableness of the allocated charges.

A team of accountants and engineers was formed to conduct these investigations and to present their findings and recommendations in connection with major rate proceedings. During the fiscal year, a comprehensive audit was conducted by the staff of GT&E Service Corporation, an affiliate of General Telephone Company of California.

A major undertaking initiated this fiscal year by the Affiliation Investigation team was the review of Bell Laboratories Inc., Western Electric Company, and American Telephone and Telegraph Company. This investigation required a number of out-of-state trips to the locations of these entitities in New York and New Jersey to review their financial records and operations.

This section also has the responsibility of auditing twenty-two other telephone companies under the jurisdiction of this commission, to answer inquiries regarding accounting matters from the telephone companies and the public, and to provide accounting and financial advice and assistance to the commission and other staff members.

Offset and General Rate Increases for the Major Gas/Electric Utilities Fiscal year 1979/80 (000)

	Type of Proceeding	Application Number	Date Filled	Amount Requested
San Diego Gas & Electric	ECAC	59108	8/29/79	$43,100
	PGA/SAM	58723	1/15/80	43,158
	PGA/SAM	59391	1/22/80	78,200
	ECAC	59409	1/29/80	152,300
	ECAC	59643	5/20/80	249,000
	General Rate	59788	7/ 1/80	144,800
				710,558
Southern California Edison ..	General Rate	59351	12/26/79	340,183
	ECAC	59499	3/ 5/80	740,600
	ECAC	59830	7/23/80	1,028
	ECAC	59831	7/23/80	236,300
				$1,318,111
Pacific Gas & Electric	GCAC/SAM	59045	8/ 6/79	180,231
	ECAC	59248	10/31/79	484,700
	GCAC/SAM	59406	1/28/80	440,000
	ECAC	59463	2/20/80	808,000
	ECAC	59694	5/28/80	(261,000)
	GCAC/SAM	59695	5/28/80	589,000
				$2,240,931
Southern California Gas Co.	PGA/SAM	59146	9/17/79	287,085
	PGA/SAM	59296	11/23/79	99,893
	General Rate	59316	12/10/79	178,900
	PGA/SMA	59508	3/ 7/80	382,698
		59832	7/25/80	45,000
				$995,576
		Total		$5,265,176

Transportation Section

The Transportation Section is primarily responsible for auditing the accounting and financial records of the California transportation companies and to provide the Transportation Division with technical accounting expertise on an "as requested basis."

During the year, because of budget constraints and changes in regulatory emphasis, this Section had concentrated its efforts on examining the operating data of the Southern Pacific Transportation Company (SPTC) in connection with its application for the discontinuance of its commuter service between San Francisco and San Jose. Subsequent to an agreement reached between SPTC and the California Department of Transportation (CALTRANS) for the continuance of the Commuter Service, this Section was retained by CALTRANS as consultants to provide professional accounting and auditing expertise to assist CALTRANS in the administration of its agreement with SPTC.

Information Systems (EDP) Audit Unit

The Information Systems (EDP) Audit Unit performs specialized EDP audits of major telephone, gas and electric utilities. These audits involve the use of the Computer Audit Retrieval System (CARS) software package to analyze computerized accounting, financial and billing records. In addition, management, organization, controls, documentation, security, costs and other aspects of the data processing operations of major utilities are reviewed.

This work is integrated with the financial audits conducted in connection with rate proceedings before this Commission.

This unit also reviews, analyzes and updates the Uniform System of Accounts for telephone, gas, electric, water and sewer utilities.

The goals of this unit are to train the auditing staff in the use of the computer as an effective auditing tool and to provide EDP assistance for other financial analysis work.

During the 1979-80 fiscal year, this unit used the CARS software package to analyze the computerized billing operations of Southern California Edison and Pacific Telephone Company.

Water Utilities Group (Engineering)

The main function of the Water Utilities Group is to regulate the rates of 19 major water utilities with 74 separate districts. Staff engineers from the Water Section prepare engineering reports on Results of Operation for general rate proceedings and are responsible for all phases of the rate proceedings. Preparation of staff Results of Operation reports involves an engineering analysis of the utility operations and preparation of estimates for customers, sales, revenues, expenses, depreciation, operating taxes, rate base and rate of return.

The Water Utilities Group is also responsible for monitoring the earnings and efficiency of operation of water utilities. Whenever there is any reduction in the cost of purchased power or water, major operating expenses for water utilities, the utilities are requested by the Water Section to file advice letters for rate reduction.

One of the significant events in the regulation of water utilities in the last fiscal year (1978-79) was the adoption by the commission of a Regulatory Lag Plan (RLP) for all water utilities under its jurisdiction. RLP for water utilities was developed on the same basis as the one for energy and telephone utilities. The plan reduces the time between the filing of a rate increase request and the date a final decision is issued. This time period is commonly called "regulatory lag period." The protracted length of rate proceeding, or regulatory lag had been a major concern of the utilities, the California Water Association and the commission.

During the fiscal year 1979-80 the staff of the Water Group has submitted all rate proceedings filed under the RLP according to the schedule. It is estimated that the current rate proceedings under the RLP will also be submitted according to schedule. Establishment of standard work papers and the use of data processing have contributed significantly towards timely completion of the proceedings.

In addition to the rate proceedings under the RLP, the staff processed six very complex rate proceedings, which had been filed prior to establishment of the RLP and involving the Water Districts of Pacific Gas and Electric Company (PG&E). PG&E had not requested rate increases in five of its six water districts in the past 10 years; therefore, the magnitude of requested increases ranged from 200 percent to 600 percent of current gross revenues. Processing of PG&E rate applications involved allocations of various operating and maintenance expenses between Gas, Electric, Steam and Water Departments.

Water Utilities Group also processed approximately 50 offset rate increase requests.

Financial Branch

This branch provides technical advice to the Commission on security issues and financial policy matters. The Securities Section makes financial analyses of applications to issue stocks, bonds, or other securities; to sell, transfer, lease or encumber utility property; and to assume obligations or liabilities as a guarantor.

The Rate of Return Section presents expert testimony in every major rate proceeding and recommends reasonable rates of return and allowances for equity capital. Included in this branch is a Tax Section which audits Federal and State income tax returns of major utility transportation companies and their affiliates in connection with major rate case application.

The Procedures and Safe Drinking Water Bond Act (SDWBA) Section provides overall administrative support and performs the management control activities of the Revenue Requirements Division. Applications filed by investor-owned water utilities seeking approval to borrow funds under the SDWBA, which add a surcharge to water rates, are processed by the section.

The Rate Fund and Financial Reports Section is divided into two functions. The Rate Fund Audit Unit is responsible for audits of trucking companies for the purpose of verifying that Transportation Rate Fund fees are properly reported.

Considerable work during the past year focused on the inability of most utilities to earn their authorized rate of return. As one means to solve this problem the staff recommended additional rate relief in non-test years to offset the interest expense associated with a utility's planned, long-term debt financing. The Commission has adopted the staff recommended step rates in several water company proceedings, giving these utilities a greater opportunity of earning their authorized returns on common equity over the entire regulatory cycle.

Rate of return is one of the most important elements in any rate proceeding and the subject is always a matter of controversy. A difference of one-quarter of one percent in the rate of return allowance for a company, such as Southern California Edison, for example, would change its gross revenue requirement by approximately $23 million annually. The counterparts to the staff rate of return witnesses are the top financial officers of the utilities, or quite often, noted financial consultants hired to testify on behalf of the utilities.

During 1979–80, the staff of the Rate of Return Section participated as expert witnesses in 11 major general rate cases and began cost of capital studies on four other utilities. Commission rate of return authorizations for the period July 1, 1979 to June 30, 1980 are shown in the tabulation on page 38.

Special Economic Project Section

The Special Economic Projects Section was formed to fill the need for specialized analysis not normally performed within the confines of a utility's rate filing. This need arose as a result of the changing nature of the utility industry, changes which were necessitated by the dramatic price increases of both oil and natural gas and the continuous strain placed on utility plant expenditures by high levels of inflation.

The two most frequent areas of analysis by this section have been the financial and rate impacts of utilities' long-run supply plans, and the economic value to utilities and their ratepayers of alternative energy technologies.

Rate of Return Authorizations
July 1, 1979 to June 30, 1980

Type—Date	Company	Rate of Return Authorization
Electric		
August 1979	CP National Corporation	9.50%
December 1979	Pacific Gas & Electric Company	10.22
Gas		
August 1979	CP National Corporation	9.50%
December 1979	Pacific Gas & Electric Company	10.30
Steam		
February 1980	Pacific Gas and Electric Company	9.20%
Telephone		
July 1979	The Pacific Telephone & Telegraph Company	9.73%
December 1979	The Pacific Telephone & Telegraph Company	10.25[1]
Water		
July 1979	California Water Service Company [2]	10.08%
July 1979	California Cities Water Company [2]	9.28
July 1979	Park Water Company	9.90
July 1979	Tustin Water Works	9.80
August 1979	CP National Corporation	9.50
August 1979	Southern California Water Company [2]	9.29
September 1979	Azusa Valley Water Company	10.35
September 1979	California-American Water Company	10.06
November 1979	San Gabriel Valley Water Company	9.57
November 1979	Southern California Water Company [2]	9.23
December 1979	Del Este Water Company	11.40
March 1980	Santa Clarita Water Company	10.10
April 1980	California Water Service Company [2]	10.28
June 1980	California-American Water Company [2]	10.19
June 1980	Laguna Hills Water Company	11.28

[1] Modified July 1979 decision to reflect increased costs of Senior Securities.

[2] Various Districts.

Under the provisions of the State Resources Code, the PUC is required to provide an analysis of the economic, financial, and rate impacts of major energy supply projects proposed by electric utilties under the rate jurisdiction of the PUC. During the past fiscal year, this section has analyzed two major electric supply options in connection with applications before the CEC, namely the proposed "Pittsburg 8 and 9" combined cycle plant of Pacific Gas and Electric, and Southern California Edison's proposed "California Coal Project." In addition, a special analysis of the financial and rate impacts associated with the construction of the "Diablo Nuclear Generating Station" was performed at the CEC's request.

Also related to analysis of long-run plans was the testimony which this section entered in OII-26 evaluating computerized models used in analyzing utility supply plans.

Two major analyses of alternative energy technologies have been performed by the Special Projects Section during this fiscal year. In OII-42, testimony was provided on the expected costs and savings to the utilities involved and to their ratepayers resulting from a utility-subsidized demonstration program to retrofit a number of single- and multi-family homes with solar water heaters. Also analyzed by this section was Pacific Gas and Electric Co.'s Application 59537 requesting authorization of a zero-interest loan program to encourage installation of insulation, weather-stripping, and other energy conservation devices by homeowners and landlords.

The Special Projects Section has made great strides in the utilization of programmable calculators and computers to accomplish calculations previously done by hand, as well as to perform analyses of a size and complexity which would be wholly impractical without the aid of a computer. A noteworthy example of the latter was the analysis of the Harry Allen-Warner Valley Coal-fired Power Plant with the aid of a computer model which calculates plant-by-plant fuel costs for a utility's entire generation plant network, as well as the utility's projected financial statements as impacted by its construction program. Also particularly useful has been a computer program which estimates the life-cycle revenue requirements of utility investments in generation and conservation hardware.

In addition to our ongoing utilization of these programs obtained from outside sources, this unit has developed a computer program which estimates annual and life-cycle costs to utilities of conservation subsidy programs. Development and use of further special-purpose programs such as this should greatly increase the productivity and effectiveness of this section.

Annual Revenues Derived from California Operations

General Utilities	**No. of Companies**	**1979**	**1978**
Water Utilities, Classes A, B, C	85	$180,563,709	$121,562,245
Class D	272	3,971,672	3,264,705
Subtotal		184,535,381	124,826,950
Gas Utilities, Classes A & B	6	5,008,982,112	3,740,566,950
Classes C & D	9	1,855,491	1,792,865
Subtotal	15	5,010,837,603	3,742,359,815
Steam Heat Utilities	2	3,678,604	3,833,649
Electric Utilities, Class A & B	7	5,674,009,275	4,954,898,633
Classes C & D	6	3,058,878	3,403,644
Subtotal	13	5,766,068,153	4,958,302,277
Telephone Utilities Classes A & B	25	6,146,577,422	5,576,641,499
Classes C & D	1	78,758	64,809
Subtotal	26	6,146,656,180	5,576,706,308
Radio Telephone Utilities	50	28,317,324	19,854,403
Sewer Companies	19	1,839,324	1,699,661
Total	482	$17,052,932,953	$14,427,583,063
Transportation			
Motor Carriers of Passengers			
Classes I, II, & III	164	$141,545,311	$113,811,774
Railroads, Class I	5	142,493,000	132,223,000
Classes II & III	27	40,758,148	41,520,784
Subtotal	32	183,251,148	173,743,684
Vessel Common Carriers			
Class A	4	9,535,657	14,489,717
Classes B & C	17	6,764,500	5,331,792
Subtotal	21	16,300,157	19,821509
Warehousemen			
Merchandise	173	63,441,165	47,533,694
Agricultural	44	11,245,586	1,851,649
Subtotal	217	74,686,586	49,385,343
Total	434	$415,783,367	$356,762,310

UTILITIES DIVISION

The Utilities Division advises the commission on matters pertaining to the regulation of privately owned gas, electric, water, steam heat and sewer utilities.

The division's staff consists of professional, technical and clerical personnel who assist the commission in meeting its statutory obligations for the regulation of utility rates, services, facilities, certifications, and safety of utility property.

The staff maintains up-to-date tariff schedules of all utilities subject to the jurisdiction of the commission, checks on compliance with PUC general orders and suggests new orders when the need arises. It makes various studies and prepares exhibits and testimony for presentation at public hearings.

The staff is organized into five branches and clerical service.

Electric Branch

The Electric Branch staff is responsible for regulatory functions relating to safety, service, tariffs and rates of the privately owned electric utilities within the state. The scope and depth of work undertaken in the various staff studies and reports is responsive to the variety and complexity of proposals submitted by the utilities, initiated by the staff, or requested by the public and other interested parties. When appropriate, the staff investigates actions of utilities to insure equitable practices in meeting public needs for electric power at lowest possible rates consistent with sound operating procedures with regard to service and safety.

The staff also participates in all types of formal proceedings before the commission involving electric utilities and has taken an active part in proceedings before the Federal Energy Regulatory Commission and the Department of Energy, wherein electric power matters of California consumers are involved. Liaison is maintained with the staff of regulatory agencies in other states and with federal and other agencies. Several branch staff members participate as committee members of the Western Conference of Public Service Commissions and the National Association of Regulatory Utility Commissioners. The staff is also called upon to provide increasingly detailed and comprehensive review and recommendations on electric energy resource availability and use to the agencies and organizations mentioned above, as well as to the State Energy Commission.

Gas Branch

The Gas Branch administers the rates, safety, service and certification of 15 privately owned utilities distributing gas and steam heat in California. It also provides technical assistance to the commission on national affairs affecting the state's gas supplies. Participation with federal agencies has been extensive this year as the commission prepares to function under the National Energy Act.

Regulatory work performed by the branch staff includes designing rates and processing utility advice letter filings concerned with tariff changes; investigating utility requirements, usage and gas distribution; defining and enforcing gas service and safety standards, including monitoring meter accuracy and investigating gas accidents; reviewing the adequacy of utility gas storage, transmission, distribution and processing facilities; and monitoring of compliance with commission decisions and regulations.

The branch staff also prepares testimony to present at formal proceedings before the commission, and participates in the affairs of the National Association of Regulatory Utility Commissioners.

Hydraulic Branch

The Hydraulic Branch is responsible for implementing and enforcing the regulatory functions relating to all privately owned public utility water systems and sewer systems. Rate proceedings for the 19 major water utilities are the responsibility of the Revenue Requirements Division, however. These functions include water supply requirements, water availability and conservation, rate investigations, service supplied to customers, and the certification status and extent of dedication of service area. The regulatory functions relating to sewer utilities include service availability, rate, service certification, status and dedication.

The responsibilities and resulting workloads of the Hydraulic Branch are separated into three sections. Sections 1 and 2 are both located in San Francisco. Section 1 is responsible for water conservation statewide and all matters relating to rates, service and certificates in northern California. Section 2 is responsible for tariff matters statewide and all matters relating to rates, service and certificates in central California. Section 3, located in Los Angeles, is responsible for all rate, service and certificate matters south of the northerly boundaries of Inyo, San Luis Obispo and Kern Counties.

Regulatory functions relating to water utilities include general rate proceedings either by formal application or advice letter filings, applications for certificates of public convenience and necessity to construct, establishment and enforcement of service standards and rules, investigation of formal and complex informal complaints and responding to customer inquiries.

Energy Conservation Branch

The Energy Conservation Branch (ECB) is responsible for regulatory functions relating to the conservation of vital energy resources. On a continuing basis the branch reviews, monitors, and evaluates conservation programs of the major gas and electric utilities. This requires the ECB to prepare exhibits, testify before the commission on new improved conservation practices, make specific recommendations on the effectiveness of the utility's energy conservation programs and recommend adjustments in the utility's rate of return based on the utilities performance in conservation. The ECB also participates in promoting federal and state conservation measures and programs.

The ECB is currently funded by the federal government to administer five conservation programs:

1. Conservation Voltage Regulation Program
2. Commercial and Industrial Audit Program
3. Residential Audit Program
4. Gas Furnace Pilot Light Turn-Off and Relight Program
5. Development and Implementation of the National Energy Conservation Policy Act

In conjunction with the National Energy Conservation Policy Act (NECPA) the ECB has participated in hearings and made comments in developing the proposed rules. After which, the ECB will be responsible for developing certain portions of the state plan in accordance with these rules.

At the state level the ECB has and will be addressing the following activities:

1. Utility-assisted financing of consumer conservation and solar energy investments;
2. More extensive review of utility research and development budgets and their redirection toward the development and use of alternative energy sources;
3. Linking electric and gas line extension credits to the promotion of energy conservation and solar energy use;
4. Requiring a minimum level of energy efficiency in housing as a condition of approving a utility service connection;
5. Investigating new cost effective conservation measures; and
6. Assist in the development of an effective state plan to promote energy conservation.

Environmental Impact Branch

The Environmental Impact Branch is responsible for the preparation of Initial Studies, Negative Declarations, and Environmental Reports on proposed projects of utility companies for which the PUC is the lead agency under the California Environmental Quality Act (CEQA).

The branch performs staff duties as required by Rule 17.1 of the commission's Rules of Practice and Procedure and has project-engineer responsibility on major projects. In the process of preparing environmental documents, the branch staff consults with responsible agencies, and if hearings are required prepares evidence on the proposed project, testifies concerning its findings and develops points for cross-examination.

Additionally, the branch is active in the coordination of commission programs with the Advisory Committees of the Geothermal Resources Board and the Seismic Safety Commission, and also reviews other projects referred to the PUC by the State Clearinghouse.

Electric

Resources Section

The Electric Branch Resources Section is responsible for reviewing proposals for new power plants both before the Energy Commission in two phases of NOI/AFC and before the PUC for Certificate of Public Convenience and Necessity on power plants and transmission lines.

In F.Y. 1979–80 the Resources Section prepared reports and testified in public hearings on certification of two major electric powerplants, Fossil 1 & 2 (coal) and Pittsburg 8,9 (Combined-Cycle oil); was involved in Case 9884 in which an order (D-91548) was issued substantially revising the system of electric priorities; analyzed the state's electrical supply adequacy in OII-43 and testified in those hearings; and was involved and testified in OII-26 concerning PG&E's resource plan.

In addition, Resources Section was involved less formally in many energy related issues, such as assessment of state-of-the-art of alternate technologies and fuels, unusual conditions of fuel supply (shortages and oversupply), natural gas availability, and proposals such as converting the Diablo Canyon Nuclear Plant to coal-fired. Other major issues under investigation were increased powerpooling, economy interchanges, and improved powerplant productivity and maintenance.

Undergrounding

Subdividers and developers are now subject to Commission provisions which require underground construction of facilities previously allowed to be placed on overhead power poles. Undergrounding policies for electric, telephone, and cable TV facilities were initiated by the commission some time ago. The only exceptions to these policies are to individuals who appear formally before the commission and present overpowering evidentiary reasons which compel use of overhead facilities. These applications for deviation from the prescribed rules apply only to rural areas and, to date, have been generally denied. Undergrounding of utilities' facilities produces many desirable effects. It follows that as more overhead facilities are converted to underground construction, power line related accidents can be expected to decrease in number as most power line related accidents occur as a result of direct contact. High winds often cause vegetation to sway into overhead power lines resulting in arcing or broken lines. Under certain conditions, fires or a power interruption can result. The power poles necessary for overhead line construction are attractive nuisances during electrical storms. Numerous fires and outages have resulted from lightning strikes. Undergrounding of facilities does not eliminate all hazards, but it does minimize them.

Public Utility Regulatory Policies Act of 1978 (PURPA)

The Electric Branch staff has continued its activities in implementing the PURPA standards.

In the past year, the staff worked on Section 201, qualified cogenerators and small power producers; Section 210, pricing policies for the purchase of power; Section 133, reporting requirements for the gathering of information on cost of service; Section 122, payment to intervenors; Section 111, rate making standards; and Section 113, other standards. A PURPA compliance report has been provided by the staff as evidence in general ratemaking proceedings.

Cogeneration Pricing Standards

In 1979, the commission held hearings in OII-26 on PG&E's resource plan including Cogeneration and Auxiliary Power. On December 19, 1979, the commission issued Decision 91109, which authorized California utilities to purchase electric power from cogenerators and small power producers at the utilities' "avoided cost" of producing such electric power on their own system. Standard price offers at full avoided costs were made by all utilities in the spring of 1980.

Intervenors Compensation

In OII-39, hearings were held and Decision 91909 was signed on June 17, 1980, which authorized compensation for intervenors, individuals and consumer groups who intervene in electric rate making proceedings. This order implements Section 122(a) (2) of PURPA. Reasonable costs will be paid to intervenors if it can be demonstrated that a substantial contribution to the case was made by such intervention.

Marginal Cost

OII-67, an investigation into marginal cost pricing, concluded its research phase, hearings have been completed and a decision is expected in late 1980.

This marginal cost pricing project which was funded by the US Department of Energy included participants from the California Public Utilities Commission, California Energy Commission, five utility companies, and several trade associations and public interest groups.

Termination of Service

On May 22, 1979, OII-49 was issued to evaluate standards for the termination of service. Among the issues to be considered will be provisions for the handicapped, elderly and economically handicapped. Hearings will be held in July and August 1980. The utilities currently maintain lists of customers who are dependent on life support equipment and in 1977 and 1978, the commission requested the electric and gas utilities to forego disconnections during periods of freezing temperatures.

Safety Unit

The Safety Unit of the Electric Branch conducts a continuing program of field inspections of all utility owned overhead line systems, in order to check compliance with the construction standards of General Order 95. This promotes the safety of the public and utility employees who are exposed to such facilities, and further assures the reliability of electric, telephone and cable-television services. During the past fiscal year approximately 172 miles of overhead facilities were inspected and 13,360 infractions of the G.O. 95 rules were reported for correction by the responsible utility companies.

The construction standards required by General Order 128 for underground utility systems are similarly administered but subjected to more limited inspection.

Electric safety is also promoted by a mandatory program of accident reports which are reviewed by the staff. Electric utility companies are required to report accidents involving fatalities or injuries involving loss of working time occurring on their facilities. The staff is thus able to investigate selected incidents; monitor accident trends and provide timely safety recommendations where appropriate.

The Safety Unit publishes an annual summary and analysis of accidents from data obtained in response to questionnaires. Reports also are solicited from telephone and cable-television companies that summarize their annual accidents by cause and type of injury. An analysis and discussion of statewide totals is prepared. Preliminary review of the last year's record shows that almost half of the reported fatalities involved persons manipulating aluminum irrigation pipe, paint roller staffs, tree pruning tools, ladders, etc., that came into contact with overhead head high voltage lines. It appears that the use of lightweight aluminum pipe near electric lines has become a special hazard of which one should be aware.

Tariff Schedules

The electric utilities submitted 155 advice letters containing 1,054 tariff sheets requiring the preparation of 47 commission resolutions. Of the 155 advice letters, 67 were to file contracts for service other than filed tariff rates or conditions.

Southern California

The staff participated and testified in Southern California Edison's application for a $340 million increase. Testimony was presented on load management, rate design, and safety.

The staff continued to participate and testify in the proceedings involving Edison's requests for increases in energy cost adjustments. One of the issues was productivity of Edison's coal plants. Work began on how regulators can increase productivity of generating plants nationwide in joint conferences sponsored by the National Regulatory Research Institute and U.S. Department of Energy, Division of Electrical Power Supply.

The staff is working on the study of need and rate impact of a 500 kilowatt transmission line to connect San Diego Gas & Electric with Palo Verde Nuclear Generating Stations in Arizona.

Load Management

The staff prepared a funding request to the U.S. Department of Energy, Economic Regulatory Administration for Agricultural Load management and Innovative Rates. The funds were granted and assistance was given to the team handling the project.

Assistance was provided on Load Management Standards contract with California Energy Commission. Electric Utilities Demonstration projects were followed including work and testimony on time-of-use rates. Large customers with demands above 1,000 kW are now on time-of-use rates exclusively.

Gas

Safety Program

Implementation of the commission's General Order 112-D, "Rules Governing Design, Construction, Testing, Maintenance and Operation of Utility Gas Gathering, Transmission, and Distribution of Piping Systems," required staff review of 39 pipeline proposals. These included applications for the construction of 16 new pipelines, the uprating of 17 present systems and the reconstruction of 6 pipelines.

The staff conducted 65 field investigations of gas utilities to ensure utility compliance with the sections of General Order 112-D pertaining to gas system operation, maintenance and corrosion control. Fifty three gas accident investigations were also conducted to determine the accidents' causes and to identify remedial actions. In addition, 26 inspections were made to ensure compliance with General Order 94-B, "Rules Governing the Design, Construction, Operation, Maintenance and Inspection of Gas Holders and Liquid Hydrocarbon Vessels." These also included the annual inspection of liquefied natural gas facilities.

At the end of 1979, the commission filed a certification with the U.S. Department of Transportation under Section 5(a) of the Natural Gas Pipeline Safety Act of 1968. The certification stated that the PUC has adopted and enforces the applicable federal pipeline safety standards. The Act requires that all gas incidents involving a fatality or damage exceeding $1,000 be reported to the Office of Pipeline Safety Operations of the Department of Transportation by the certified state agencies. During the fiscal year 1978–79, 37 injuries and one fatality involving gas accidents were reported.

Commission Decision 90372 of June 5, 1979 revised General Order 112-C and designated it as General Order 112-D, effective July 5, 1979, by modifying Part I and Part II and incorporating a new Part III on safety standards for liquelifed natural gas facilities.

SERVICE PROGRAM

Meter Testing—Gas

General Order 58-A provides for periodic testing of customer's gas meters. Regulated gas utilities reported that a total of 357,034 meters were tested during 1979, representing 4.9% of the total in service at end-of-year. Refunds to customers based on meter tests amounted to $110,566.

Heating Value of Natural Gas

Natural gas delivered to California consumers is produced from various sources within the state, from the western and southwestern United States, from Mexico and from Canada.

The average heating value of California source gas for 1979 was 976 Btu for northern California and ranged from 1,040 Btu to 1,211 Btu for southern California. The average heating values for out-of-state gas ranged from 1,034 Btu to 1,092 Btu.

SoCal Gas and PG&E take small quantities of methane gas from nonconventional sources such as landfill projects and biomass systems. The methane gas is mixed with gas from other sources and, because of the relatively insignificant volume does not materially affect the quality of gas delivered to the consumer. The typical Btu of the gas from these sources ranges from 700 to 1,000.

Extension Rules

The Commission issued an interim opinion in Case 10260 after hearings regarding allowances, rules and practices for free footage for new gas connections. The commission stated that current extension rules promote energy consumption and are contrary to state and national policy and ordered respondent utilities to file rules to promote conservation of energy. The order has been stayed pending further hearings.

Other Formal Proceedings

Under OII-26, the cogeneration investigation, the commission ordered PG&E to file gas incentive rates for cogeneration facilities. PG&E filed the tariff as ordered, along with a contract form which was a pre-requisite for service. Based upon industry response to the PG&E filing, the matter was taken up as an application for further hearings. Subsequently, SoCal Gas and SDG&E were requested to file their own incentive rates. The three resulting applications were combined for hearings.

Eight other applications were filed during the past fiscal year by gas utilities.

Three applications were for certification exemptions for facilities to be constructed outside California. One of the requests was granted and the remainder are pending.

A decision was issued on two applications to modify the Gas Safety Order to conform in part with changes in the federal standards.

Two requests for issuance of certificates of public convenience and necessity were granted. Requests for certificates to exercise franchises are not anticipated for the future due to the passage of legislation repealing sections 1002 and 1003 of the Public Utilities Code.

The investigation into standards for terminating gas service, OII-49, is in progress. This investigation is to comply with federal requirements in the Public Utility Regulatory Policies Act of 1978 (PURPA).

The adequacy of Pacific Gas and Electric Company's lifeline gas and electric allowances in coastal and mountainous areas is being investigated in OII-77. The marine influence and other factors may call for different allowances than those presently available.

Legislative Mandate

Senate Bill 734 deregulated propane gas utilities effective January 1, 1980.

Section 221 of the Public Utilities Code was amended to delete propane related plant from "Gas Plant" for the production, generation, transmission, delivery, storage or furnishing of natural or manufactured gas from the jurisdiction and control of the Commission.

The passage of this bill deregulated eight propane utilities in the state.

Assembly Bill 1287 repealed sections 1002 and 1003 of the Public Utilities Code and allows the public utilities to exercise any right or privilege under any franchise or permit without first having obtained from the commission a certificate of public convenience and necessity.

Gas Rate Design

The commission adopted for Pacific Gas and Electric Company general criteria to be used for natural gas rate design. The criteria were available for rate design of other utilities and were modified during the year to meet the specific circumstances of each utility.

An inverted gas rate structure, lifeline rates and a constant customer charge are main features of California's residential rates. A constant customer charge in lieu of increasing customer charges enables residential customers to have a lower bill with less gas, and along with the third tier rate (in the PG&E system) being the highest rate on the system, encourages conservation. The natural gas rates to industrial customers are maintained at levels approximately the cost of alternative fuel to encourage conservation and to avoid significant customers switching to alternative fuels such as No. 2 and No. 6 fuel oil.

With the startling rises in cost of energy, most of the increases granted to gas utility companies have been just to cover the increased cost of purchased gas. During the Fiscal Year 1979–80, rate increases granted to gas utilities have totaled $1.8 billion or a 50% increase. Cost of gas increases through the purchased gas offset procedure accounted for $1.2 billion or 66.7% of all increases.

New Projects

During the 1979–1980 fiscal year significant progress was made toward the certification and construction of the Alaska Natural Gas Transportation System (ANGTS). Early construction of the southern portion of the ANGTS known as the "prebuild" project will result in a short-term increase of deliveries of Canadian gas in the volume of 240 MMcf/d to Southern California. The "prebuild" project involves expansion of existing facilities from the Alberta-British Columbia border to Southern California in the west and Dwight, Illinois, in the East. The ultimate completion of the ANGTS through to the North Slope of Alaska will add, initially, 465 MMcf/d of Alaska gas to California supplies. The CPUC has supported the ANGTS but has vigorously objected to certain aspects of the project believed to be detrimental to California consumers. Issues argued by the PUC included the routing of the prebuild project and the risk to consumers of the construction of the prebuild pipeline without assurance that the Alaskan portion would be built. The PUC has also participated in the various financial proceedings concerning the ANGTS including rate of return and gas production cost issues. Currently, the interstate portion of the "prebuild" project has been certificated and should be completed by the winter of 1981. Financial arrangements for the remainder of the ANGTS took a step forward when the North Slope producers agreed to join in the financing of the initial project engineering work. An application for certification of the interstate portion of the facility is expected to be filed by PG&E this year.

During January, 1980, Mexican natural gas began flowing into the United States at the Texas border in the volume of 300 MMcf/d. While this is a limited term supply, the purchase contract allows for an option to renew and additional volumes can be anticipated. California currently receives 75 MMcf/d of this gas through the El Paso and Transwestern interstate pipeline systems. A serious impediment to this supply source could be the border pricing mechanism. The Mexican price recently increased to $4.47 per MMBtu to equal the Canadian border price of gas. The Economic Regulatory Administration (ERA) issued an interim authorization for this price increase but instituted proceedings to review the pricing methodology of both governments. The issues of marketability, the price of alternate fuels in regional U.S. markets, transportation costs and take-or-pay provisions in gas purchase contracts are being analyzed. The PUC is taking an active role in these matters through its legal and technical staffs.

In July of 1979, Pacific Gas Transmission Company (an affiliate and supplier of Canadian gas to PG&E) filed an application with the FERC to construct its Rocky Mountain Pipeline project. When completed, and adequate supplies of gas are developed in the Rocky Mountain "Overthrust Belt", this project will bring 300 MMcf/d of gas to California. The pipeline is also being designed with sufficient flexibility to carry additional volumes of Canadian and Western U.S. gas supplies to California as needed. The project is presently at the application stage at the FERC and may be considered as competitive to proposed and existing pipelines directed to the Central and Eastern U.S. The PUC is an active participant in this application.

Pacific Offshore Pipeline Company (an affiliate of Southern California Gas Company), after satisfying environmental concerns, has requested authority from the FERC to construct an eight mile, 12-inch pipeline from the offshore Hondo field in Southern California to an onshore treatment plant. This project will add 30 MMcf/d, initially, to the SoCal system with a potential for later increased volumes. Although the PUC supports the project, it has taken issue with the proposed distribution of production-related costs between the producer and the consumer. The FERC is expected to act in the near future on this issue.

There are three distinct but related proceedings to which the Staff of the PUC has devoted considerable time and effort. Federal Energy Regulatory Commission (FERC) Order 23 is the proceeding that gave rise to the El Paso Natural Gas Company (El Paso) and the Transwestern Pipeline Company (Transwestern) matters.

El Paso and Transwestern supplied 62 percent of California's natural gas supply in 1979. These companies obtain that gas under contracts of sale entered into with producers of natural gas among which are included all of the major oil and gas companies. These contracts contain clauses that in general provide that the price for gas will escalate to any new price that the Federal Power Commission (FPC) or its successor, the Federal Energy Regulatory Commission, might set.

Congress passed the Natural Gas Policy Act of 1978 (NGPA) that fixed, by statute, prices for natural gas that generally were much higher than the prices contained in the El Paso and Transwestern contracts. In the Order 23 proceeding the FERC ruled that the escalator clauses in the contracts were sufficient to permit collection of NGPA prices even though the language of the clause did not refer to congressionally set prices.

The PUC protested each contract clause, which required a review of each contract. There were 576 contracts in the Transwestern matter, and over 8,000 in the El Paso matter. These protests are all awaiting a hearing. These two matters will be pursued through the appellate court process if necessary. At stake are millions of dollars in potential price increases for supplies of natural gas that have already been committed to California.

Concurrently with the El Paso and Transwestern matters, the Order 23 proceeding has been appealed and a brief filed. That appeal is pending in the United States Court of Appeals for the Fifth Circuit. These three proceedings are now into their second year of litigation.

Research and Development

GRI is a natural gas industry entity created in 1976 to plan and implement a research and development (R&D) program for the ostensible benefit of the gas consumer. GRI filed an application with the FERC to fund its budget through rates paid by gas consumers. The application was approved.

Each year GRI submits an application to the FERC containing its R & D program for the coming year and an updated five-year R & D plan. Each year the PUC Staff reviews the application and submits comments to the FERC on the proposed program opposing, if necessary, those proposals in the program that are believed to be of no value to the consumer or suggesting activities that should be undertaken. This is an ongoing project that will continue on a yearly basis for the foreseeable future.

Rate Proceedings

In addition to various FERC Purchased Gas Adjustment rate increase filings by interstate pipelines serving California, resulting from NGPA wellhead price deregulation and escalation by law, El Paso Natural Gas Company and Transwestern Pipeline Company had pending general rate increase applications to recover other increased costs of operation. El Paso's case was settled on a negotiated basis involving refunds, small base rate increases and commitments to allow for future offset rate increases to cover net audited increases in fixed costs not recovered by higher sales levels. Transwesterns' case was pending settlement on a similar basis at year's end, apparently signaling a new FERC approach to reduce regulatory lag at the federal level. PUC staff was particularly active in these matters.

PGT's Canadian gas price to PG&E is on a cost-of-service basis wherein actual monthly costs of border purchases and transportation are billed monthly, under FERC (previously FPC) approved tariffs. Any changes in fixed cost allowances, such as depreciation or rate of return, however, must be approved by a Section 4 (Natural Gas Act) filing. In addition, PG&E must obtain PUC, and PGT must obtain federal, approval for charging the periodic increase in Canadian border price.

The fourth interstate natural gas company serving California, Pacific Interstate Transmission Co. (an affiliate of So.Cal. Gas Co.) obtains the majority of its gas from an affiliated exploration, development and production company. Most of the costs of its operations are borne by California gas customers through operation of the Gas Exploration and Development Rate Adjustment process (GEDA) approved and monitored by the PUC. Gas produced is sold to PIT Co. at federally regulated (or deregulated) wellhead prices and revenues from such sales are then credited to the GEDA adjustment. This process thereby provides California gas customers with an economical, increased gas supply. PIT Co. is also purchasing as-available gas from Northwest Pipeline Co., in addition to its role as purchaser of Canadian gas surpluses (through NWP) slated to flow through the initial ANGTS pre-build facilities in 1981.

The on-going litigation of El Paso's special over riding royalties in the San Juan Basin of New Mexico is closer to final resolution following the February, 1979 FERC initial decision favoring California's position that the "royalties" are, in fact, "prices" subject to federal jurisdiction. Settlement discussions among the producers, El Paso and CPUC staff are continuing, the successful conclusion of which would provide substantial refunds and future revenue reduction over the remainder of the century.

Out-of-State Activities

Under Section 401(a) of the Natural Gas Policy Act of 1978 (NGPA), the Secretary of Energy (DOE) was directed to prescribe a rule to protect essential agricultural uses from curtailment of natural gas deliveries by interstate pipelines, unless the gas is needed to protect higher priority uses, or unless it is determined that an alternate fuel is "reasonably available" and its use is "economically practicable". Section 401(c) of the NGPA directed the Secretary of Agriculture (USDA) to certify essential agricultural use requirements necessary for "full food and fiber production" to the DOE and the Federal Energy Regulatory Commission (FERC). Section 401(b) of the act directed the FERC to determine whether an alternate fuel for an essential agricultural use is "economically practicable" and "reasonably available."

FERC Order 29 established rules to implement Section 401(a) of the NGPA, and required interstate pipelines to file amended curtailment plans by October 1, 1979 together with indices of entitlements for each direct sale customer, each local distribution company and each interstate pipeline purchaser. The amended curtailment plans were to establish a new Priority 1 covering "high priority users," and a new Priority 2 covering "essential agricultural users" as those terms are defined in the NGPA. All other categories in existing pipeline curtailment plans were to be placed below these two new priorities. The new plans became effective on November 1, 1979.

FERC Order 29 also required each interstate pipeline to establish a Data Verification Committee (DVC) to review all calculations behind the draft tariff sheets and the proposed index of entitlements. A California Public Utilities Commission staff member is assigned to the El Paso Natural Gas Company (El Paso) DVC.

The El Paso DVC met on August 7 and 8, 1979, September 13, 1979 and December 13, 1979. The DVC examined requests from El Paso's customers to reclassify as Priority 1, and requests from Essential Agricultural Users for classification to a new Priority 2. Where errors were encountered or deficiencies noted, the forms were returned to the appropriate party for correction and recertification.

The DVC also examines El Paso's draft tariff sheets to be filed pursuant to Order 29 and suggested certain minor changes which have been incorporated into the tariff sheets filed by El Paso.

Finally, the DVC met to examine and verify the reallocation of volumes and changes in gas use profiles of those essential agricultural use customers served by El Paso who have alternate fuel capability pursuant to the provisions of FERC Order 55. The gas use profiles of those customers so affected were corrected to reflect volumes of gas removed from the essential agricultural use category and restored to the appropriate lower priority.

In-State Activities

The California natural gas curtailment plan used by the various local distribution utilities to allocate gas supplies in California during times of shortage is an end-use priority system modeled after the FERC-approved El Paso curtailment plan. Since the adoption of the California end-use priority curtailment plan in Decision 85189 on December 2, 1975, changes to the plan have been prompted from time to time by experience and changing circumstances.

Hearings were held in Los Angeles on December 11, 1979 and in San Francisco on January 17, 1980, to examine the possibility for priority upgrading of customers making energy efficiency investments (solar, cogeneration and Priority 4 commercial and institutional customers with central heating plants).

Pending Matters

There are several curtailment plan matters pending at the federal level. On June 24, 1980, the Economic Regulatory Administration (ERA) at Docket ERA-R-79-10-A issued for public comment a proposed rule which, among other things, is intended to implement Section 402 of the NGPA requiring that high priority be accorded "essential industrial feedstock and process use" requirements.

Other matters pending resolution at the federal level are the proper classification of igniition fuel and flame stabilization gas (presently classified as Priority 3).

At the state level, hearings have been concluded on proposed revisions to the California end-use priority curtailment criteria as they apply to high priority use, essential agricultural use, commercial use over 100 Mcfd, and cogeneration use. The staff recommended that the commission reaffirm its previous position to support the "end-use" concept in its curtailment plan. The staff did, however, recommend the creation of a new Priority 3A category for cogeneration projects pursuant to the mandate of the Calvo Bill (AB-5240).

Decisions on these matters as well as the priority upgrading revision for energy efficiency investments are pending.

Gas Supply, Requirements, Costs

The staff prepared and published two reports, in a series of reports, designed to provide historical data and a ten-year forecast of California's natural gas supply, demand and costs. These reports were prepared primarily for the information of the commission and use by the staff in connection with commission participation in federal and state regulatory proceedings, as well as use by the general public and other state and federal agencies.

The gas supply and requirements portion of the report contains ten years' projections of natural gas supply by different sources as well as projections of natural gas requirements by the end use priority system. Because of variations in the demand for natural gas over a range of weather conditions and uncertainty as to the availability of supplemental supplies, three supply cases were developed. Each supply case was then balanced against three demand cases which represent the variation in demand over a range of weather conditions.

In the costs portion of the report the average system costs were forecast for each supply case. This method was chosen because it best reflects the purpose of the report, which is to evalulate a range of circumstances likely to prevail, and to identify avoidable supply and economic situations that may adversely affect the public interest, rather than to predict a single result for each of the next ten years.

Ten Section Underground Storage Facilities

Pacific Gas and Electric Company (PG&E), Southern California Gas Company (SoCal) and its affiliate Pacific Lighting Service Company (PLS) by Application 58905 filed on May 31, 1980, requested a certificate of public convenience and necessity to acquire and operate an underground natural gas storage reservoir in the Ten Section Field in Kern County. This joint venture proposed by the applicants was to help to alleviate peak-hour and peak-day supply deficiencies of the utilities during the extreme cold day occurrences of the winter season.

The staff prepared extensive evaluation of the peak-day supply and requirement balances for both northern and southern California regions, as well as a cost of service study of the proposed facility and its impact on the ratepayers of the gas utilities. The staff concluded that there will be a need for additional load equation capacity on both PG&E and SoCal systems in the mid 80's and that the proposed field is ideally situated to provide such capacity. The staff also determined that Ten Section is an economically sound project, and that there is a multitude of other benefits to the ratepayer as a result of the acquisition and operation of this field. The staff therefore presented testimony and recommended certification of the Ten Section Field. The Commission on June 3, 1980 by Decision 91856 granted final approval for the project.

Water

The Hydraulic Branch implements regulatory requirements for 362 investor-owned public water systems and sewer systems located throughout California.[1] Its responsibilities include investigating rate increase requests (either by formal application or advice letter); processing applications for certificates of public convenience and necessity; establishing and enforcing service standards and rules; investigating formal and complex informal complaints and responding to customer and public inquiries. The branch is also responsible for determining water supply requirements, availability of supply, conservation, resolving service problems, and making recommendations regarding the certification, status and extent of dedication of service area. The regulatory functions for sewer utilities include service availability, rates and certification, status and dedication.

The Hydraulic Branch monitors compliance with Commission decisions, develops and administers commission rules governing water and sewer service, and manages and interprets tariff schedules. The branch evaluates the ability of regulated water companies to provide adequate volume and pressure to new subdivisions for both consumption and fire fighting. It then certifies this capability to the Department of Real Estate in order for that department to confer its final approval for a new subdivision.[2]

Except in the drought periods, water utilities under commission jurisdiction have generally been able to supply adequate amounts of water for normal domestic, business, and industrial use.

The Hydraulic Branch is divided into three sections. Sections 1 and 2 are in San Francisco. Section 1 is responsible for water conservation statewide and all matters relating to rates, service and certificates in northern California. Section 2 handles tariff administration statewide and all actions relating to rates, service and certificates in central California. All rate, service and certificate matters south of the northern boundaries of Inyo, San Luis Obispo and Kern Counties are processed by Section 3 in Los Angeles.

Water Regulatory Lag Plan

During the several years preceding 1979, rate increase requests became so numerous that a faster processing procedure became necessary. The Water Regulatory Lag Plan (WRLP) was developed by the staff and adopted by the commission on an experimental basis (Resolution M-4705, April 24, 1979). Under the WRLP process advice letter general rate increases are to be completed within 180 days after filing and the rate increases by formal application (generally Class A utilities) within 210 days after filing. To make this possible the staff developed detailed work paper formats in which the utility provides all required data before the filing date is set and the staff investigation started. Previously, the staff's work was frequently interrupted because the utility had not supplied all required data. During Fiscal Year 1979–80 the Hydraulic Branch completed the processing of 20 general rate increase filings under the WRLP. The average interval from filing to final authorization by the commission was reduced from 345 days to 160 days.

Advice Letter Process

The advice letter rate increase processing program, formally established in 1968, has assumed greater significance in succeeding years. When instituted, it applied only to utilities with gross annual revenues of $25,000 or less. Because of the success of the program, this limitation was increased, in 3 steps, to the present limit of $750,000 set in 1978.

In 1974 a new advice letter program was developed for processing offset rate increases without having to process a complete general rate increase. This program applies to such cost increases as purchased power, purchased water, payroll, and payroll taxes. During fiscal year 1979–80 the Hydraulic Branch processed 19 offset rate increases which were authorized by the commission.

Number of Utilities Regulated

The commission regulates privately owned water utilities in 56 of the 58 California counties and sewer utilities in 15 counties. The number of regulated water utilities decreased from 354 to 344 during fiscal year 1979–80. The number of regulated sewer utilities (18) remained constant. These changes are summarized as follows:

	Gains	Losses
1. Transferred to other public utility water companies ..		3
2. Sold to municipalities (water)		0
3. Sold to public agencies:		
water		7
sewer		1
4. Mutuals		1
5. Abandoned, Revoked certification ..		2
6. New certificates:		
water	3	
sewer	1	
Total	4	14

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[1] Excluding rate proceedings for 17 major water companies and 1 sewer company which are the responsibility of the Revenue Requirements Division.

[2] In April 1980 the commission and the Department of Real Estate agree to waive such certification if there was no doubt that the utility could fully satisfy water requirements for new subdivisions. Five of the major water utilities were then exempted from the requirement to submit Water Supply Questionnaires to the commission for review and approval.

Summary of Formal Actions

The Hydraulic Branch participated in the following formal actions resulting in commission decisions during the fiscal year 1979–80:

	No.
Suspension, Revocation of Certificates; Abandonment of Service or Facilities	
Water	3
Sewer	0
Requests for certificates	
Water	9
Sewer	0
Exemption From or Modification of a Decision	
Water	11
Sewer	0
Transfer of Certificates and Utility Property	
Water	34
Sewer	1
Rate Increases—Hydraulic Branch Utilities	
Water	6
Sewer	1
Rate Increases—Major Water Utilities Applications processed by Revenue Requirements Division (Rate Design Only)	7
Issue of Stock, Securities; Encumbrance of Utility Property	
Water	19
Sewer	0
Formal Complaints	
Water	45
Sewer	0
Commission Investigations	
Water	5
Sewer	0
Petitions for Modification/Rehearing Decisions; Supplemental and Miscellaneous Orders	
Water	21
Sewer	1
Total	163

Rate Increases Authorized

Water

During the fiscal year the commission authorized, by formal decision, 6 general rate increases and, by resolution, 59 advice letter rate increases processed by the Hydraulic Branch. The advice letter increases included general and offset increases.

Sewer

During the fiscal year the commission authorized, by formal decision, one general rate increase and, by resolution, 3 advice letter offset rate increases.

These increases are summarized above.

Total Increases in Revenues—Hydraulic Branch

Water	No.	Per Year
General Rate Increases (Formal Decisions)	6	$860,660
General Rate Increases (Advice Letters)	43	572,758
Offset Rate Increases (Advice Letters)	16	267,584
Total	65	$1,701,002
Sewer		
General Rate Increases (Formal Decisions)	1	$166,100
General Rate Increases (Advice Letters)	0	
Offset Rate Increases (Advice Letters)	3	73,916
Total	4	$240,016

Sewer Regulatory Actions

Operating experience of Laguna Hills Sanitation Inc. indicated that sudden changes were occurring in expenses for purchased power, sludge hauling and disposal, land leases, and irrigation equipment rentals. To accommodate these changes the Effluent Disposal Cost Adjustment Clause (EDCAC) was adopted by the Commission in Decision 91182, on January 8, 1980. In some respects the EDCAC is similar to the Energy Cost Adjustment Clause (ECAC) and the Gas Cost Adjustment Clause (GCAC).

Other significant actions during the fiscal year were:

(1) A Certificate of Public Convenience and Necessity (CPCN) was granted by the Commission for a new sewer utility in San Benito County.

(2) One sewer utility in San Bernardino County was transferred to a Municipal Water District.

Other Advice Letter Actions

In addition to the Advice Letter rate increases approved by commission resolution, the Hydraulic Branch also processed 29 other Advice Letters approved by commission resolution and 163 miscellaneous Advice Letters not requiring a resolution during Fiscal Year 1979–80. These included such items as deviations from General Order 103 fire flow requirements; deviations from tariff Rule 15, Main Extensions; contract deviations; service area maps; and rule changes. The Tariff Unit of the Hydraulic Branch also processed documents for 48 offset rate increases for major water utilities handled by the Revenue Requirements Division. Processing consists of logging, assigning resolution number, checking the advice letters for compliance with General Order 96-A and sending approved documents to the utilities.

Energy Conservation

Following the passage of the National Energy Conservation Policy Act (NECPA), the Federal Department of Energy (DOE) adopted the proposed rules for the RCS program on November 7, 1979 which became effective thirty days later. During the next six months the Energy Conservation Branch participated in hearings and offered comments to California's lead agency, the California Energy Commission (CEC) on the proposed State Plan. The main concerns of the ECB were as follows: (1) the cost and content of the residential audit; (2) the cost and mechanics of setting up the RCS audit including listing and delisting of suppliers, contractors and lenders; (3) the monitoring of measures completed as a result of the audit; (4) the funding of the RCS audit expenses through increased utility rates; and (5) the cost effectiveness of the whole RCS plan. The State Plan for the RCS program was submitted to the DOE on June 4, 1980. At present the CEC is waiting for the comments from DOE on the State Plan. The major remaining concerns of the ECB on the State Plan submitted to DOE are the average cost per RCS audit and the extent to which the expense will be cost effective to the ratepayer.

At the state level the ECB will continue to address the following activities:

1. Utility assisted financing of consumer conservation and solar energy investments;
2. More extensive review of utility research and development budgets and the redirections of the development and use of alternative energy sources and retrofit conservation measures;
3. Promotion of energy conservation and solar energy use through electric and gas line extension credit;
4. Requiring a minimum level of energy efficiency in housing as a condition of approving a utility service connection;
5. Investigating new cost effective conservation measures; and
6. Assisting the development of an effective RCS State Plan to promote cost effective energy conservation program measures.

The following address the applications and decisions as they relate to conservation for each utility as well as Orders Instituting Investigations (OII) for various conservation activities and progress of conservation programs during the 1979–1980 fiscal year.

Pacific Gas and Electric Co. Applications 58545 and 58546

On December 26, 1978 PG&E filed a general rate proceeding to establish new base rates for a 1980 test period. In that application PG&E requested approximately $71 million for energy conservation. Hearings on conservation matters were held in May and June, 1979, and the commission issued Decision 91107 on December 19, 1979, which adopted a total of $65.6 million for PG&E's various energy conservation and load management activities. Of this amount, $36 million was designated for customer related conservation programs. The remaining $29.6 million was spread between load management, cogeneration, conservation voltage regulation, utilization of waste, conservation research and development, and other general office departments' conservation and load management related expenses.

The ECB staff recommended an 0.05% reduction in PG&E's rate of return. This would have amounted to about $6.4 million in gross revenues. The staff recommended this reduction in rate of return because PG&E failed to attain reasonable levels of energy conservation. In addition PG&E did not establish potentials and goals for future conservation activities. In Decision 91107, the commission did not adopt the ECB staff recommendation made relative to PG&E's overall conservation efforts and instead ordered a reduction of $7.2 million in net revenues because PG&E had not adequately pursued the development and implementation of cogeneration. This $7.2 million represented a negative adjustment of 20 basis points to the return on common equity for PG&E's electric department.

The commission also directed PG&E to develop and submit by June 1, 1980, a clear statement of gas and electric conservation potential in each sector of its service territory. PG&E was also ordered to prepare a more rigorous methodology for projecting goals for its conservation programs and to submit that study to the commission by September 1, 1980.

Southern California Edison Application 59351

Southern California Edison filed Application 59351 on December 26, 1979. Public hearings were held in early 1980. In this application Edison requested $39 million to implement its energy conservation programs for test year 1981. The ECB staff recommended reduction in gross revenue of $20 million, which amounts to a reduction in the return on common equity of 50 basis points. The gross revenue reduction was recommended because the utility's present and proposed conservation programs are inadequate. The inadequacy is due in part to the utility's failure to develop a long range conservation plan based on studies of the energy conservation potential in its service territory and on energy savings persistence. The utility's proposed energy conservation programs, especially under Phase II of the Conservation Voltage Regulation program, did not constitute an aggressive or even an adequate energy conservation effort. A decision in this matter is expected in the fall of 1980.

Southern California Gas Application 59316

On December 10, 1979 Southern California Gas Company (SCG) applied for authorization to increase its rates for gas service and conservation expenses for test year 1981. Testimony was heard in late spring of 1980, and briefs are presently being filed. The ECB recommended that Southern California Gas Company receive a 54 basis point reduction in earnings on common equity or a 0.21% reduction in the rate of return based on the staff estimated 1981 rate base of $1,151.4 million for test year 1981. It appears that Southern California Gas Company is now improving its conservation programs in an effort to reduce the 54 basis point reduction in rate of return.

It appears that the mechanism of adjusting rate of return based on the utility's participation in conservation programs is having a marked impact on utilities, changing their attitudes towards promoting conservation. Since the hearings with Southern California Gas Company it appears the utility is now striving to have better monitoring and accounting methods available to the ECB staff to evaluate the cost and cost effectiveness of their conservation programs.

San Diego Gas & Electric Application 59350

SDG&E requested authority to increase its electric rates to produce revenues to recover 1980 Load Management Program expenses in Application 59350 filed on December 21, 1979. SDG&E also requested authority to implement a Load Management

Balancing Account for these expenses to be effective January 1, 1980.

A public hearing was held on March 6 and 7, 1980 and Decision 92024 was issued on July 15, 1980 authorizing the establishment of a balancing account. However, the balancing account could not be lawfully established retroactively back to January since that would constitute retroactive ratemaking. The balancing account was established effective on the date of the decision and no expenses incurred prior to this date shall be included in the account. This will protect the ratepayers by ensuring that only commission authorized funds are allowed full reimbursement on these programs. The decision also ordered that SDG&E should be placed on notice that unspent amounts, which have been allowed in rates for conservation and load management programs in its last general rate case and in this application, will be offset by a corresponding reduction in any rate relief allowed in its next general rate case.

Southwest Gas Corporation Application 59359

On December 31, 1979, Southwest Gas Corporation (SWG) filed Application 59359 requesting to increase its gas rates and submit its conservation budget of $455,497 for test year 1981. During the hearings in early spring of 1980 the ECB staff recommended that Southwest Gas improve its conservation data format, its accounting of expenses for conservation programs, its measurement of energy savings, and that SWG submit an application for zero interest financing. SWG has improved its conservation programs to be consistent with decisions in Case 10150 (concerning the potential use of solar energy) and 10032 (home insulation and assistance in financing provisions). The ECB staff recommended the SWG's rate of return not be adjusted for test year 1981. The decision is now pending.

SWG's conservation activities include promoting sales and installation of temperature setback thermostats, intermittent ignition devices, and retrofit residential water heater insulation blankets. SWG continues its voluntary gas furnace pilot light turn-off program and a do-it-yourself weatherization program. In addition, SWG sponsors energy conservation poster contests, advocates that builders construct energy efficient homes and promotes public awareness for customers to purchase energy saving appliances. During the hearings SWG provided proof that its attic insulation program had improved dramatically over prior years. SWG agreed to improve its data presentation and measurement of energy savings. The utility also agreed to apply by December 1, 1980 for authority to offer zero interest financing for weatherization measures.

CP National Corp. Applications 59548–59552

On March 31, 1980 CP National Corporation (CPN) applied for authorization to increase its rates for gas and electric service for its five districts in California. The five applications requested a total of $141,050 for conservation expenses and $26,760 for report card billing expenses for test year 1981. These matters were set for hearing early in the next fiscal year with a decision expected before 1981. CPN has participated with San Bernardino County and the CEC in a joint effort to weatherize residences in the City of Needles. CP National formed the Lake Tahoe Conservation Center whereby it offered to share its ENERCOM audit service with Sierra Pacific Power Company and Southwest Gas Corporation. CP National proposes to apply for zero interest financing as soon as a decision in the PG&E zero interest financing application is signed. CPN has applied for federal aid to construct an experimental solar power plant in Needles. The utility is also investigating participation in a geothermal wood residue power plant and plans to participate in cogeneration projects with lumber companies in its Lassen District.

Pacific Power & Light Application 59309

On April 2, 1980 the commission issued Decision 91497 in Application 59309 filed November 30, 1979 by Pacific Power & Light Company (PP&L) for authority to establish zero interest financing for their conservation programs. PP&L's application was modified slightly by the ECB staff witness calling for customers to begin small no-interest loan payments after ten years if the customer's house was not sold prior to that time triggering full repayment of the loan. This recommended change was approved by the commission. This was the first zero interest financing program to be approved in the State of California.

Pacific Gas & Electric Application 59537

On March 25, 1980 PG&E filed Application 59537 to request authority to implement a zero interest conservation financing program. In this application PG&E requested that it be able to recover the expenses incurred in offering zero interest financing of residential weatherization and conservation measures. Hearings in this application were continuing at the end of the fiscal year. The outcome of this application will have great bearing on other utility's programs for zero interest financing in the State of California.

Orders Instituting Investigations OII-13

As a result of the commission's joint investigation with the California Energy Commission regarding the intended uses of solar energy in California (Case 10150), the Public Utilities Commission issued on April 4, 1978 an order instituting the investigation of utility rules in the marketing of solar energy devices by the eight major utilities in California. A decision is expected in the fall of 1980.

OII-26

In September, 1978 the commission issued an Order Instituting Investigation of PG&E's electric resource plan and alternative energy resources, intending to "harmonize interest of the ratepayers and the shareholders with respect to planning for the future plant". Subjects of particular interest in the investigation include repowering of existing facilities, cogeneration, conservation programs and utilization of renewable energy resources.

Hearings began in April, 1979. The ECB recommended cost effectiveness analysis of conservation and cogeneration proposals and a study of long-term forecasting of conservation impacts on PG&E's future supply plans. On December 19, 1979 the commission issued Decision 91109 which ordered PG&E to provide all potential cogenerators a schedule of its full avoided capacity cost as defined by the system power values appropriate related cost. PG&E was authorized to offer to purchase at the avoided capacity cost rates all power produced and delivered on firm contracts to the busbar by cogenerators. Sales to cogenerators for all their internal needs would be at firm contract, and those who supply power for all their internal needs shall remain on filed standby rate schedules.

OII-42

On April 24, 1979, in a companion order, the commission instituted an investigation of utility roles in the financing of solar energy systems. On January 29, 1980, the commission issued Decision 91272, an interim order in OII-42. That order directed the four major utilities—PG&E, SCG, SCE and SDG&E—to file proposals for demonstration solar financing programs. Through utility bill credits or low interest loans residential customers could through such programs be encouraged to retrofit their gas or electric water heaters with rooftop solar water heaters. The commission's order expressed a penetration goal of 2% of the utilities' gas water heater customers and 10% of the electric water heater customers or about 216,000 systems statewide. The objective of the demonstration program is to establish whether such ratepayer subsidies are likely to result, in the long run, in lower utility rates to all customers should the programs be offered to 100% of the eligible water heating customers. A decision is expected in the fall of 1980.

OII-43

On April 30, 1979, the commission issued an order instituting investigation into the possible electric energy supply shortages of electric utilities (resulting from the shutdown of certain California nuclear generating facilities) and emergency measures to provide for necessary mutual assistance among California's electric utilities. The purpose of this OII was to provide an up-to-date plan for summer load sharing in case the need arises. On June 19, 1979, Decision 90427 was issued to establish a summer of 1979 electrical capacity shortage contingency program.

This decision and a subsequent modifying order (Decision 90712 issued August 28, 1979) established temperature restrictions for air conditioning for all California electric utility customers and set forth other prohibitions and curtailment provisions for certain non-essential electric energy uses such as window display lighting during daylight hours. These orders served Californians well during the summer of 1979.

More recently through further hearings and a subsequent order (Decision 91751 issued May 6, 1980) similar air conditioning temperature restrictions and other prohibitions and curtailment provisions were enacted for the summer of 1980. The current order establishes a 78 F. minimum cooling temperature limit consistent with recently extended federal requirements for commercial and industrial establishments and it also applies to all other customers including residential. Exceptions to the California temperature restrictions are permitted only for supermarkets and related businesses whose primary activity involves the preservation and processing of perishable foods, and for hospitals, convalescent homes, and other health care facilities.

The ECB is responsible for overseeing the effectiveness of the program and for monitoring daily the electrical energy supply and requirements of the State of California for the commission during the period of June 1 through October 31.

CEC Programs

The ECB staff continues to cooperate with the CEC in providing information and assistance in the following matters:

1. 78-CON-1—Possible modification of the Residential Building Standard
2. 80-CON-1—Proposed Load Management Programs
3. NECPA —Proposed RCS State Plan for residential audits
4. Interagency Agreement (funded by DOE until June 30, 1980)
    1. RCS Program
    2. CVR Program
    3. Pilot Light Turn-Off Program
    4. CIA Audit Program
    5. Residential Conservation Program

Recorded and Weather Adjusted Electric and Gas Sales

The Energy Conservation Branch tracks energy sales trends using at the meter consumption data to determine average energy use per customer and presents this information to the commission and interested parties on a quarterly basis. Examples of such charts include the average use per residential customer for both natural gas and electricity. These use-per-customer charts are prepared on both a recorded and climatically adjusted basis. The recorded data show actual sales per customer while the adjusted trends utilize recorded data modified by deviations of the local climate from average long term weather conditions.

The example charts on the following page indicate climatically adjusted use per residential customer electric and gas trends for the period from January, 1973 to June 30, 1980.

The electric use per residential trends have, in general, moved upwards over the past 5½ years. However, such upward movement has been due largely to increases in the saturation of various electric appliances, including space heating and air conditioning. This increasing saturation of appliances has masked conservation which otherwise could have been observed in declining use per residential customer trends.

Utility Insulation Program Results

All eight regulated energy utilities offer retrofit attic insulation financing at 8 percent interest with up to five years to pay back the loans. All, except SoCal Gas and SDG&E, make direct offers of hardware such as low-flow showerheads and hot water heater blankets as incentives for customers to purchase insulation. In lieu of hardware, SoCal Gas offers a $50 cash incentive and SDG&E offers a $25 conservation device purchase credit to customers who have installed R-19 attic insulation.

All utilities provide insulation contractor referral service and publicize insulation programs through bill stuffers, direct mail and various combinations of newsprint, radio and television advertising.

Table 1 illustrates the insulation progress from 1976 to date, as well as the estimated remaining number of uninsulated or underinsulated attics as of January 1, 1980. Remaining attic retrofit insulation potential is shown by single family, multi-family dwelling and mobile home units.

Estimated Energy Savings

The estimated energy savings and peak electrical demand reduction for calendar year 1979 energy conservation activities of the eight major California investor-owned energy utilities are summarized in Table 2. These estimated savings include the residual effects of conservation programs enacted in previous years (1976–1978).

The grand totals on the summary sheets indicate that a combined energy savings of approximately 7,190,500,000 kilowatt-hours of electricity and 603,700,000 therms of natural gas were conserved during calendar year 1979 through the total efforts of the major California regulated utilities who participated in ECB's coordinated energy conservation programs. The electric energy savings are equivalent to 11.5 million barrels of oil worth approximately $403 million, based on oil costs of $35 per barrel. The gas energy saved represents enough natural gas to serve approximately 603,700 new homes in California for one year. In addition, the combined efforts caused a peak demand reduction of 1351.9 megawatts not including the rather substantial demand reduction resulting from Conservation Voltage Regulation which will be quantified in the near future.

Environmental Impact

The program of the Environmental Impact Branch derives from the California Environmental Quality Act of 1970. Several revisions of the original legislation have occurred since that time. The basic statute is the Resources Code, beginning with Section 21000.

The law charges the California Public Utilities Commission as the "lead agency" over projects for which it has authority, with the task of carrying out the environmental assessment for such projects and preparation of environmental documents. The California Energy Commission, has been given the "lead agency" role over new thermal-electric generation sites and connecting transmission facilities.

Specific procedures for carrying out this program are contained in Rule 17.1 of the PUC's Rules of Practice and Procedure.

The Environmental Impact Branch has an authorized budget for three primary units that function as project teams each headed by a senior engineer. The unit head is the project manager for most projects. For some less complex projects, associate level engineers are assigned as project managers. The project team under the general supervision of the assistant branch chief and branch chief prepare environmental assessment documents and perform administrative tasks concerning projects requiring certification by the commission. These documents include initial studies, draft environmental impact reports (DEIRS), final environmental impact reports (FEIRS), and other special studies or reports that may be required in particular applications. In order to administer the work of the Allen-Warner Project Team, a special project section was formed under the general supervision of the branch chief. The Allen-Warner Project is a coal-fired electric generating system consisting of generating units located in Utah and Nevada, a coal supply in Utah and coal slurry pipelines linking the coal supply with each of the generating units, and transmission lines linking the generating system with the service areas of the participants.

The major part of the work of the branch deals with high-voltage transmission lines. The remainder of the branch work is on a variety of utility projects (i.e., hydroelectric power generating, natural gas storage and transmission, liquified natural gas/air mixing facilities).

Environmental Reviews
June 30, 1980

1.	A-58183..	PG&E	Peabody	D-94371
2.	A-58282..	SDG&E	San Onofre-Encina	D-90711
3.	A-58436..	SDG&E	San Onofre-Encina	D-90838
4.	A-58639..	SDG&E	Brentwood-Panoche Pipeline	D-90501 Dismissed
5.	A-58905..	PG&E	Ten Section Underground Gas Storage	D-91856
6.	A-58971..	PG&E	Diablo Canyon T/L	D-91420
7.	A-59172..	SDG&E	Tijuana-Miguel T/L	Pending
8.	A-59330..	PG&E	Lakeville-Sobrante T/L	Pending
9.	A-59362..	PG&E	Gregg Connection	Pending
10.	A-59512..	SCE	Heber-Geothermal	Pending
11.	A-59575..	SDG&E	Eastern Interconnection T/L	Pending
12.	A-59308..	SCE	Allen-Warner Valley Energy System	Pending

Table 1

SUMMARY OF ATTIC INSULATION INSTALLED FROM 1976 THROUGH 1979 AND REMAINING POTENTIAL[1]

Utility	Estimated Total Number of Attics Insulated by Utility Programs & Others in Utility Service Area					Estimated Number of Remaining Uninsulated or Underinsulated[2] Attics on January 1, 1980			
	1976 (a)	1977 (b)	1978 (c)	1979 (d)	Total (e)	Single Family (f)	Multi-Family[3] (g)	Mobile Home (h)	Total (i)
1. Pacific Gas & Elect. Company	100,000	180,000	165,000	171,000	616,000	772,000	390,000	120,000	1,282,000
2. San Diego Gas & Electric Co.	8,000	27,000	24,000	4,700	63,700	148,000	174,000	28,000	350,000
3. Southern California Edison Company	100	712	36	57	905	5,340	N/A	N/A	5,340
4. Southern California Gas Company	51,741	82,824	56,497	61,679	252,741	901,000	158,000	N/A	1,059,000
5. CP National	N/A	138	8	100	246	10,210	980	2,220	13,410
6. Pacific Power & Light Company	N/A	100	100	100	300	4,180	N/A	N/A	4,180
7. Sierra Pacific Power Company	432	492	541	112	1,577	2,750	N/A	N/A	2,750[1]
8. Southwest Gas Corporation	N/A	100	100	100	300	5,120	N/A	N/A	5,120
TOTAL	160,273	291,366	246,282	237,848	935,769	1,848,600	722,980	150,220	2,721,800

N/A—Not Available

[1] Data reported by utilities, or best estimate.

[2] Less than R-19.

[3] Only top floor units are considered.

7/30/80

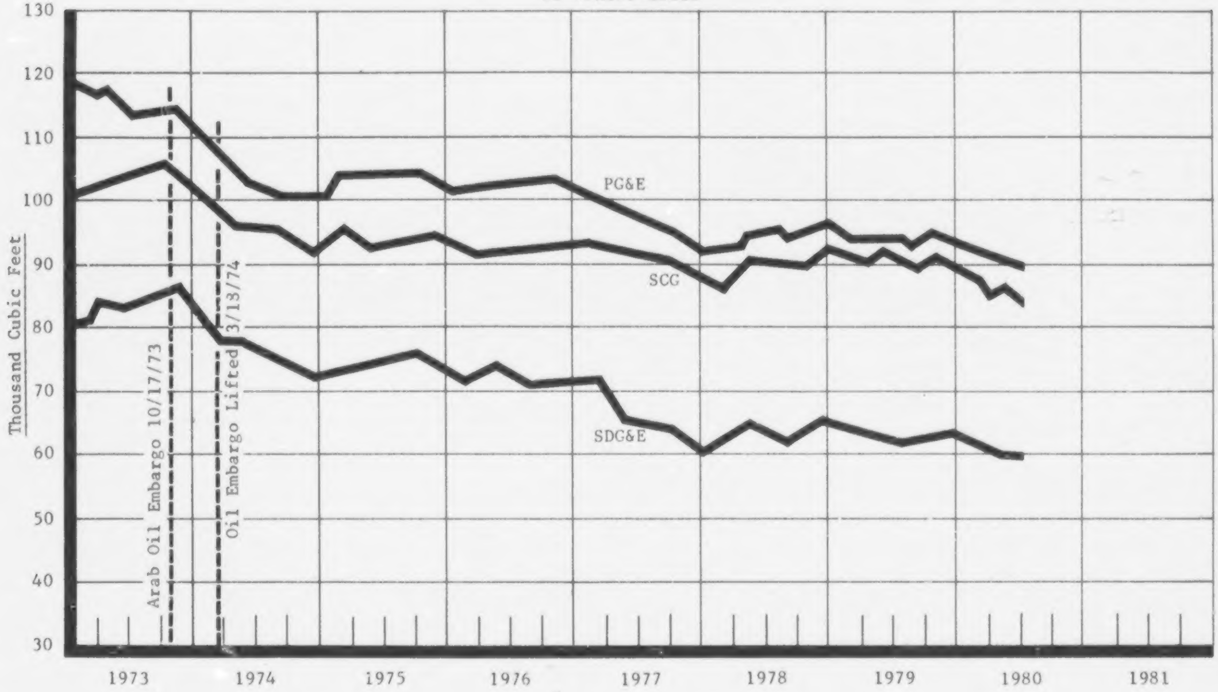
Table 2

SUMMARY OF ESTIMATED ENERGY SAVINGS AND PEAK ELECTRICAL DEMAND REDUCTION FOR 1979

	ELECTRICITY (Million Kwh)	GAS (Million Therms)	DEMAND REDUCTION (Megawatts)
COMMERCIAL/INDUSTRIAL/AGRICULTURAL ENERGY AUDIT PROGRAM			
Pacific Gas & Electric Co.	315.7	42.3	188.8
San Diego Gas & Electric Co.	70.8	5.5	3.5
Southern California Edison Co.	1283.6	–	251.3
Southern California Gas Co.	–	78.7	–
Program Total	1670.3	126.5	443.6
CONSERVATION VOLTAGE REGULATION PROGRAM			
Pacific Gas & Electric Co.	636.9		
San Diego Gas & Electric Co.	123.0		
Southern California Edison Co.	1500.0		
CP National	2.3		
Sierra Pacific Power Co.	2.3		
Pacific Power & Light Co.	2.5		
Program Total	2267.0		
STREET LIGHT CONVERSION			
Pacific Gas & Electric Co.	31.1		7.6
San Diego Gas & Electric Co.	0.5		0.1
Southern California Edison Co.	15.7		3.8
Program Total	47.3		11.5
COGENERATION			
Pacific Gas & Electric Co.	1326.1		252.3
San Diego Gas & Electric Co.	331.1		63.0
Southern California Edison Co.	629.1		119.7
Program Total	2286.3		435.0
GAS FURNACE PILOT LIGHT PROGRAM			
Pacific Gas & Electric Co.		47.3	
San Diego Gas & Electric Co.		10.3	
Southern California Gas Co.		60.0	
Southwest Gas Corporation		1.5	
CP National		.06	
Program Total		119.16	
OTHER ENERGY CONSERVATION ACTIVITIES			
Pacific Gas & Electric Co.	485.8	115.8	213.7
San Diego Gas & Electric Co.	30.5	3.9	8.7
Southern California Edison Co.	403.3		239.4
Southern California Gas Co.	–	238.3	–
Activities Total	919.6	358.0	461.8
All Programs Grand Total	7190.5 MMKwh	603.7 MMTherms	1351.9 Megawatts

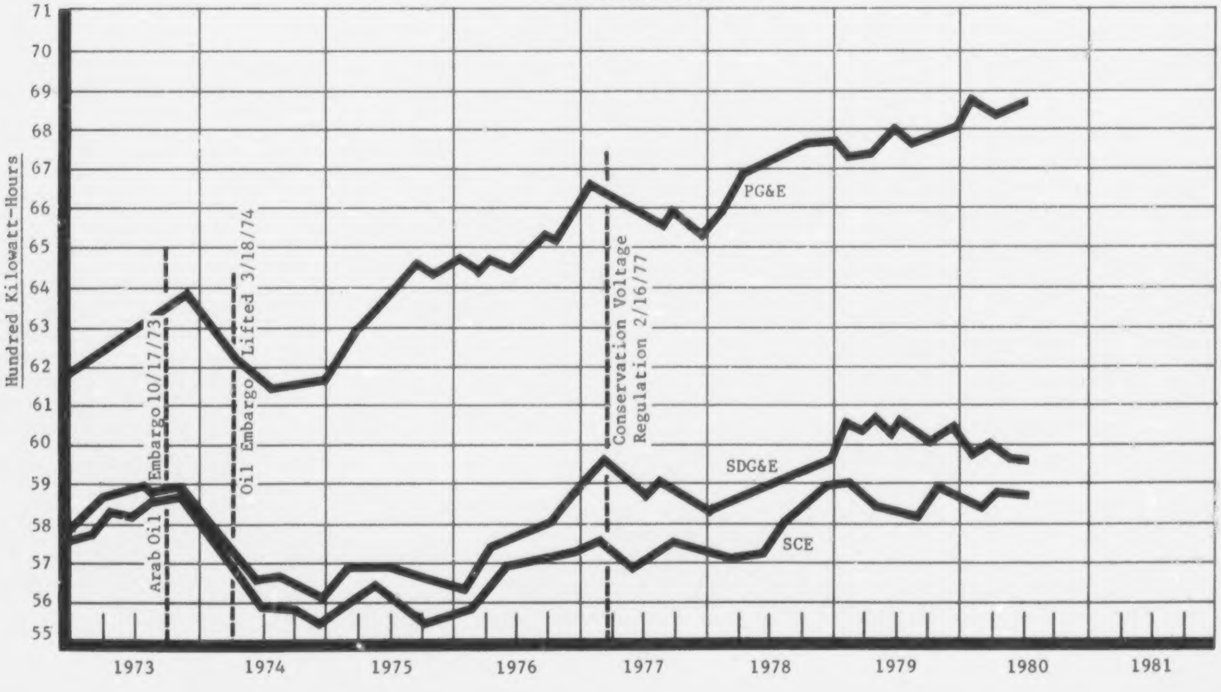
GAS

Climatically Adjusted
12 Months Ended



ELECTRICITY

Climatically Adjusted
12 Months Ended



The branch may prepare environmental documents by utilizing staff personnel or contract personnel. Because of the need to complete its work on each project within a mandated one year period and the need for services of highly differing and specialized nature, the branch utilizes the services of private consulting firms on nearly all projects.

Each technical staff member has a particular area of expertise or ability that has been developed by special training or experience. It is an assigned responsibility of each of these people to maintain this particular expertise or ability by staying knowledgeable of what is developing in that area. Emphasis is on being able to apply that capability in environmental assessment responsibilities of the branch.

The branch also has the responsibility to review and prepare comments or coordinate the review and comments of others on environmental reports submitted to this agency by the State Clearinghouse.

Cogeneration

The PUC investigation of Pacific Gas and Electric Company's resource plan (OII-26) continued throughout this fiscal year. The staff submitted a report supporting payment of the utility's full marginal cost to the cogenerators and other small power producers. Such a concept would do away with the negotiation process. Proponents of this concept expect higher payments to cogenerators and small power producers with consequently a higher percentage of the cogeneration potential being realized. The PUC staff also conducted an informal survey to determine the preference of cogenerators and other small power producers for either the sharing of the benefits concept or the payment of the full marginal cost concept. In general, marginal pricing was preferred. The survey also indicated that existing air quality regulations are perceived as a major obstacle to cogeneration development in California. Uncertainties over the Fuel Use Act are also perceived as a significant obstacle since gas and oil must be used in many projects.

A major milestone was achieved during this period with the issuance of Decision 91109 by the PUC on December 19, 1979 in the cogeneration and auxiliary power phase of OII 26. This decision orders PG&E to publish and provide to all potential cogenerators a schedule of its full avoided capacity costs and energy costs. PG&E was authorized to purchase at these rates all power produced and delivered on firm contracts to the bus bar by cogenerators. Nonfirm purchases were authorized at the avoided cost of energy to PG&E at the time of delivery. PG&E was ordered to file a schedule of prices to be paid to cogenerators including proposed contract terms and provisions for purchased cogenerated electricity and was also directed to file a proposed gas rate incentive tariff to be reviewed in the next gas proceeding.

Besides adopting these pricing incentives for cogeneration, the commission ordered certain other measures as well. PG&E was ordered to hire a consultant to estimate cogeneration potential, and develop an ongoing tracking system. The utility was ordered to establish a special task force to identify, pursue and report on oil field recovery projects; to assist cogenerators in obtaining current knowledge of pollution control and environmental regulations; to assist cogenerators in obtaining cost-justified pollution control tradeoffs; and to prepare a financial analysis program for the use of cogenerators in their cost/benefit analysis.

The PUC continued its active participation in Federal Energy Regulatory Commission (FERC) proceedings. Comments submitted in FERC Docket RM 79-54 "Small Power Production and Cogeneration Facilities —Qualifying Status" urge FERC not to unduly restrict natural gas or oil supplies to cogenerators, and point out that it is the clear intent of Congress to extend the benefits of qualifying status to all cogenerators.

Comments submitted in FERC Docket RM 79-55 "Small Power Production and Cogeneration Facilities —Rates and Exemptions" support in principle the economic concepts embodied in the proposed rules, and urge promulgation of the rules as soon as possible to provide a nationwide impetus to cogeneration. The PUC also urged FERC to leave as much flexibility as possible to the states in implementing the concepts contained in the proposed rules.

The cogeneration program of Southern California Edison Company was evaluated as part of the staff effort in Edison's general rate case Application 59351 (NOI-9). The results of the staff's evaluation are included in the "Report of Staff Recommended Rate Design for Southern California Edison Company Test Year 1981" as Chapter 8, dated March 14, 1980, and was sponsored at the public hearings.

Edison's cogeneration program was found to be adequate to date. However, the staff made specific recommendations for inclusion in the commission's order to insure that the program is continued and improved as necessary to promote the maximum possible development of cogeneration within Edison's service territory. These recommendations were:

Edison should perform the studies of its system air emissions necessary for potential cogenerators to obtain any air quality permits and emission offsets required by law.

Edison should perform the studies of its system fuel use necessary for potential cogenerators to obtain any Fuel Use Act exemptions required by the U.S. Department of Energy.

Edison should assist potential cogenerators in obtaining current knowledge of pollution control and environmental regulations.

Edison should apply all possible vigor and imagination to its cogeneration program with the goal of bringing the maximum amount of cogeneration on-line in the shortest possible time.

Southern California Gas Company's cogeneration program was also evaluated by the staff in the gas company's rate case. This program was found to complement the programs of Southern California Edison and the Los Angeles Department of Water and Power, as these electrical utilities do not have a gas department and corresponding contacts with gas customers.

The commission provided an incentive gas rate for cogeneration in

Decision No. 91239, dated January 15, 1980. This decision ordered PG&E to file, by February 1, 1980, Schedule G-55A "Cogeneration Natural Gas Service." Rates and conditions of service were specified by the commission. This tariff was timely filed but a dispute has arisen over the amount of gas eligible for the incentive rate as the customer's cogeneration usage. The tariff was suspended and the matter will be resolved through a formal proceeding before the commission. Three different proposals have been made by the major gas utilities.

Pacific Gas and Electric Company made its price offering in response to Decision 91109, on February 4, 1980. This filing entitled "Special Announcement About Cogeneration and Small Power Production, February 1980", was mailed (during February 1980) to all potential cogenerators known to PG&E.

The Governor established an interagency task force to promote cogeneration within the state. This task force is composed of representatives of the following state agencies: California Energy Commission, Public Utilities Commission, Air Resources Board, Office of Planning and Research, and Solid Waste Management Board.

The objective of the task force is to expedite development of cogeneration projects in California by providing coordinated assistance to certain projects selected to have a high potential. Following staff level work in which PUC staff participated, a high level meeting involving the Governor's chief of staff, decision makers and staff from the state agencies, potential cogenerators, and the electric utilities, was held in the Governor's office on March 4, 1980. Another meeting with the Governor was held on June 4, 1980.

The PUC staff continued its work in attempting to establish a tracking system for cogeneration projects. Legislation passed in 1979 (AB524-Calvo), required the PUC to cooperate with the Air Resources Board (ARB) in developing an inventory of potential cogeneration technology projects which could be constructed before 1987. Meetings were held with the utilities and ARB staff to assist them in developing the required inventory. A letter summarizing the assistance provided by the PUC staff to the Air Resources Board pursuant to AB-524 was transmitted to the ARB on May 1, 1980.

The Federal Energy Regulatory Commission issued its Final Rule Regarding the Implementation of Section 210 of the Public Utility Regulatory Practices Act of 1978 (PURPA) on February 19, 1980 (Order 69 in Docket RM 79-55). The rule provided that within one year, each state regulatory authority (that agency having ratemaking authority) shall commence implementation of pricing standards for cogeneration and small power production.

The PUC issued its plan on June 10, 1980 for implementation of the FERC rules. The plan allows all regulated electric utilities to participate in the Commission's determination of the prices, terms, and conditions of electric purchases from cogeneration and small power production. The commission's policy on utility-owned cogeneration and small power production plants will also be investigated. As a result, all further efforts in OII 26 will be consolidated in this proceeding. OII 26 will continue however, in its evaluation of Pacific Gas and Electric Company's resource plan and the role of alternative generating sources in that plan.

The plan sets forth a schedule for this commission's implementation of the FERC regulations which will allow both the identification of interested parties and receipt of their comments and suggestions with respect to cogeneration and small power production pricing standards. Utility price offerings which were made in February through April, 1980, in response to PUC Decision 91109 may provide one basis for comment. Submission of different approaches and additional studies made by all parties are also encouraged. Following the receipt of all comments, the staff will then prepare a draft of proposed pricing standards which will be sent to all parties upon issuance of an order instituting investigation.

Marginal Costs

Commission action in OII 67 (the commission's investigation into a methodology for calculating marginal costs) may result in the adoption of a marginal cost methodology which requires revised avoided costs. However, the commission's adopted marginal costs methodology will not be available for consideration in the development of these pricing standards. These standards, therefore, will be based on avoided costs used by the utilities to develop interim price offerings. In most instances, the chosen methodology will be consistent with that used to develop marginal costs in the utility's last general rate case. The pricing standards will be established so that, to the extent practicable, commission adopted modifications to its marginal cost methodology will automatically be reflected by the affected utilities in price offerings for cogeneration and small power production.

Southern California Edison and San Diego Gas & Electric Company made interim price offers in April 1980. These offers provide cogenerators and small power producers the opportunity to sign long time contracts for power purchases without waiting for final PUC action adopting the pricing standards and marginal costs calculation methodology.

Load Management

Staff load management activities were implemented to carry out the commission's orders promulgated by Decision 85599, dated March 16, 1976, in Case 9804, because an investigation on the Commission's own motion into electric utility rate structures and changes that could be made to encourage conservation of electricity in the State of California was undertaken pursuant to the request of the Legislature in Assembly Concurrent Resolution 192.

The term "conservation of electricity" was construed to include the efficient use of existing generating resources so as to postpone the need for construction of additional expensive generating equipment.

Decision 85559, as modified by Decision 86541, dated October 26, 1976, ordered various load management activities as follows:

Category I: Mandatory time-of-use rates for all customers having electric demands above 500 kW. Implementation was prescribed in three steps starting with the largest customers for whom suitable metering was available and working down to the smaller customers.

Category II: Experimental TOU rates for groups of customers with demands below 500 kW to investigate cost-effectiveness of the TOU concept to the smaller customers.

Category III: Load deferral experiments to investigate cost-effectiveness of various equipment and techniques for reducing system load by temporary interruption of service to water heaters and air conditioners compressors for both commercial and residential installations.

In August of 1976, the Federal Energy Administration, now the Department of Energy (DOE), agreed to assist in California's comprehensive load management/rate structuring analyses by sponsoring the Electric Utilities Demonstration Project (EUDP) to be jointly managed by PUC and the California Energy Commission (CEC). Nine of the 24 EUDP experiments are Category I; 6, Category II; and 9, Category III.

Although EUDP was to be a three-year project, federal funding was discontinued after the second year. Continuing PUC staff involvement is necessary, however, to pursue to completion the load management measures and experiments required by Decision 85559.

According to the original time scale established by Decision 85559, the Category I TOU rates should all be in effect by this time. Various factors have combined to delay total implementation including the Decision 85559 order that ". . . proposals shall include a consideration of the utilization of various metering devices or other devices for load management."

These are procurement of suitable meters in sufficient quantities, the need to gain experience with each tier of TOU rates before implementing the next, and customer acceptance problems and petitions for stays or rehearings that have delayed implementation of some rates for as much as a year.

The load management activities for the three largest California utilities are summarized as of July 20, 1980 by program, annual dollar cost of program, number of participating customers, peak demand reduction in megawatts and summer peak demand megawatts with load management.

Industrial-Commercial

Metering

Some progress was made in time of use programs under Category I (customers with electric demand above 500 kW) in 1979–80. PG&E installed 585 magnetic tape and 1,275 visual display meters for Category I TOU programs. SCEdison showed a net increase of 82 magnetic tape meters and an additional 498 such meters for Category II (customers with electric demands of less than 500 kW).

SDG&E installed 21 TOU-6 (more than 4,500 kW) meters and 113 TOU-5 (1,000 to 4,500 kW) meters under Category I programs. An application is pending, approval of which would result in the installation of 192 TOU-4 meters for customers with demands of from 500 to 1,000 kW.

Rates

Three-tier residential rates have been approved for PG&E by Decision 91721 of April 29, 1980. SCE Application 59499 of March 5, 1980 was not approved by Decision 91805 of May 20, 1980, as far as a three-tier domestic and industrial/commercial rate authority is concerned. There was insufficient evidence on the distribution of SCE sales. SDG&E Application 59643 of May 20, 1980, requesting a residential and industrial/commercial energy cost adjustment clause (ECAC) three-tier rate increase, was not approved as their proposed rates were found to be higher than the marginal costs. There was a difference between the applicant's and PUC's methods in determining the size of the second tier.

The net effects of a three-tier industrial rate structure are still inconclusive. It is important to evaluate the price elasticity of demands in determining the demand effect of TOU rates. The cost-effectiveness from the utility point of view, however, of the TOU rate programs is high as the main cost incurred in these programs is that of the meters, although the monitoring and evaluation of programs are expensive.

There is a continuing discussion in California rate cases on what a three-tier or any other number of tiers rate structure should be for industrial/commercial electric energy use.

PG&E has amended its Application 58089 to request authority for a specific level of TOU rates for customers with demands from 500 kW to 1,000 kW. SCE and SDG&E are seeking similar authority through a general rate increase, via Applications 59351 of December 26, 1979 and 59785 of July 1, 1980, respectively. TOU rate potential benefits are to be determined.

A rate structure of any desired number of tiers in terms of KW demands may be designed utilizing a rate design program module. One such module is available at the PUC Electric Branch.

Rate structure changes may be requested in ECAC (Energy Cost Adjustment Clause) hearings, as was done by SDG&E Application 59643 of May 22, 1980. Decision 91971 of July 2, 1980, however, approved a two-tier instead of a three-tier rate structure of SDG&E. This decision followed PUC staff's recommendation that innovative rate design, supposed to be of a more permanent nature, should not be proposed with a frequency of ECAC rate adjustments that are taking place in about two to three-month periods. Furthermore, it was recommended that a two-rate structure should do for SDG&E energy cost adjustment needs. Three-tier and other innovational rates should be proposed after more extensive research and experiments, general or special rate cases.

Experiments

PG&E, SCE and SDG&E participate in experimental industrial air conditioner (A/C) cycling programs. Cost-effectiveness of A/C cycling devices in industry is problematic because of uncertainties as to whether the method used can result in a sufficient load reduction. Air conditioners are switched off and on at the same specified time intervals regardless of the class of their loads and thermal characteristics. One should distinguish between continuous and intermittent loads.

This results in a possible margin of error as high as the estimated energy savings of this program. This problem could be overcome by assigning the air conditioners to classes with similar load curve characteristics and staggering the switching off and on of these classes of air conditioners.

Agricultural Load Management

In September 1979, PUC secured a one-year DOE grant to develop and implement innovative agricultural rate structures and rates to achieve effective load management. This contract is now expected to be extended to September 1981.

University of California at Davis (UCD), PG&E and SCE are the other program participants. They were under the supervision and coordination of PUC. An advisory committee has been established consisting of 18 representatives of the active participants plus other federal, state and concerned agricultural representatives and provides a structured forum for project coordination.

PG&E and UC Cooperative Extension/Farm Bureau held meetings with segments of California farmers to discuss agricultural load management programs involving TOU rates (the PA-2X schedule) during April and May 1980. As of July 1, 1980, over 2,000 of 17,020 accounts had responded favorably to PG&E's agricultural load management program. Over 3,000 accounts are expected to be placed on the PA-2X schedule before the end of 1980. These accounts represent billing demands between 50 kW and 500 kW and are located in Coast Valleys, Colgate, De Sabla North Bay, Sacramento, San Joaquin and Stockton Divisions of PG&E.

UCD is performing case studies to evaluate the impact of PG&E experimental rate of pumping, dairy and other livestock, drying and other farm operations.

UCD also is studying the effects of agricultural load management by irrigators on irrigation districts and other water supply organizations.

LP (load profile) meters will be installed by PG&E starting in 1981 to secure data on electrical use patterns. Due to time pressure in implementing the DOE funded studies, PG&E will utilize TOU meter data and circuit analysis in 1980.

The benefit-cost of these experiments may be positive.

UCD is also performing benefit-cost studies of its PA-2X in specific crop situations such as cotton growing. These rates were filed by PG&E Advice Letter 794-E following Decision 91721, providing differential rates for on-peak (12:30 p.m. to 6:30 p.m.), partial-peak (8:30 p.m. to 12:30 p.m. and 6:30 p.m. to 10:30 p.m.), and off-peak periods (10:30 a.m. to 8:30 a.m.). These are Monday through Friday rates. All day Saturday and Sunday is an off-peak period. Rates apply to two seasons: Period A: from May 1 through September 30 and Period B: October 1 through April 30.

It is to be noted that the customer participation in these TOU three-level experiments (PG&E Schedule PA-2X) decreases with increasing size of the agricultural operations. The incentive levels may have to be higher for larger customers to reduce their demand.

Ongoing studies by UCD will provide PUC with the information on the change of electric costs relative to total farm costs. This relative change appears to be comparatively small for the PA-2X rate customers.

Residential Load Management

In accordance with CEC/PUC Interagency Agreement 400-086 (8/9), PUC has completed three quarterly reports on residential load management activities including a preliminary report on cost-effectiveness.

The highlights of residential load management activities were the establishment of Residential Load Management Standards by CEC and various PUC decisions authorizing the funding of particular utility programs to implement the standards.

Tariff Incentives and Conditions

Residential load management activities fall under Categories I and II. Category I refers to mandatory TOU rates for all customers having electric demands above 500 kW. Category II means experimental TOU rates with demands below 500 kW.

In response to Advice Letter 970-E, Resolution E-1875 of March 18, 1980 authorized PG&E to revise its existing experimental domestic controlled load service tariff Schedule DC.

The experimental rate schedule is expected to terminate January 1, 1983. These rates are in compliance with the CEC Load Management Standards, Section 1622, adopted pursuant to Section 25403.5 of the Public Resources Code.

The revised tariff schedule is applicable to selected electric air conditioning and electric water heater customers and provides for a new broad set of incentives by tariff changes covering four divisions: San Joaquin, Stockton, East Bay and Shasta. In place of the $6 per month discount formerly offered, the new monthly discounts vary from $0 to $8 per household for the following Phase I Control Program activities (Phase I refers to the first year of this new tariff):

May 1 to September 30

Central air conditioner cycling.

Cycling plus special metering (the determination of electric load profiles).

Central air conditioner shedding (total switching off during a period of time).

Shedding plus special metering.

January 1 to December 31

Water heater cycling.

Water heater cycling plus special metering.

Phase II Control Program is to be filed prior to November 30, 1980.

Phase III Control Program is to be filed prior to November 30, 1981.

Phase II and III refer to the second and third years of the new tariff.

SDG&E has filed, via Advice Letter 498-E, a Preliminary Statement on

Residential Peak Load Cycling Program Incentives and Cycling Strategies, effective April 6, 1980. This program is voluntary and requires special contracts by participants in Residential Peak Load Cycling Program for air conditioners and water heaters. Incentives are offered to participants and secondary participants. A participant is a person living in a dwelling who permits the cycling of his/her electric air conditioner. A secondary participant is an owner of a dwelling in which a renter-participant lives. The cycling percentage reductions range from 25% to 50% of total time-of-use involving differential incentives ranging from $0 to $25 per year. During the test and evaluation phase of 28 months, approximately 7,625 remote cycling devices will be installed on electric water heaters and central air conditioners.

Decision 92024 of July 15, 1980 authorized SDG&E to increase its electric rates and other charges to recover its Load Management Program expenses.

Customer acceptance of residential load management programs varies, mainly in accordance with the price elasticity of demand in the various California communities with various income levels and climates. Further studies are needed to determine the customer acceptance of these programs. The cost-effectiveness of the various residential load management programs will be evaulated from the standpoint of the utilities.

Swimming Pool Load Management Programs

The pool filtration period is reduced from 10 to 4 hours a day. The pumps are set to run during off-peak hours.

A. SCE has had its systemwide swimming pool filter pump program since March 1980 to reduce the time span for pumping in order to reduce the demand during the system peak period. This is being accomplished by resetting filter pump time clocks so that they do not operate during the noon to 6 p.m. summer peak load period.

The 1981 SCE budget for this program provides for inspecting 20,000 swimming pools at $12 per pool in its service area. The estimated energy savings and demand reduction are 14,900,000 kWh and 39.6 MW, respectively. The cost-effectiveness of these programs is quite high.

B. Decision 92024 of July 15, 1980 authorized SDG&E's Swimming Pool Filter Pump Program cost offset to cover the installation of load management equipment.

The program was started in 1978. All 30,650 SDG&E service area pool owners were contacted by SDG&E and provided program information as to the economics of consumer costs. It is estimated that about 9.9 million kWh of energy are saved per month. This saving is accompanied by a 25 MW reduction of demand. Customer response has been a good one. The program benefit-cost ratio generally is positive as the L/M equipment costs are not very high.

UTILITIES STATISTICS

The utilities operating under the jurisdiction of the Public Utilities Commission are classified by type of service.

The 1979 statistics and data developed for the tabulations and charts in this section are from reports filed with the commission by the large California privately-owned public utilities as follows:

A. For gas, the data are based on the totals of the four largest utilities serving over 99% of the customers served by the 7 privately owned gas public utilities.

B. For electric, the data are based on totals of the four largest utilties, which serve more than 99% of the customers served by the 13 privately owned electric public utilities.

C. For water, the data are based on the totals of the 32 largest of the 344 privately owned public utilities whose individual revenues exceed $200,000 a year.

D. For telephone, the data are based on totals of the five largest utilities serving more than 99% of the company main stations served by the 26 privately owned telephone public utilities.

The number of utility customers shows a 3% annual rate of growth and a compounded annual growth rate of 2.7% from 1970–1979, reflecting the steady increase in California's population. Total operating revenue rose 13% as a simple annual increase over 1978, and is growing at a compound rate over the past 10 years at 11.4% per year. Gas utility revenues increased 35.2% over 1978, electric utility revenues rose 1.9%, and telephone utility revenues increased 10.5% in the same period. Total utility plant grew at a simple rate of 9%, with the compounded annual growth rate from 1970 to 1979 of 6.8% per year. The most vigorous utility plant growth continues to be telephone plant which more than doubled in the last 10 years.

A tabular comparison of monthly bills for typical residential use of gas, electric and telephone service is included for the 25 largest United States cities using the latest published rate schedules and final 1970 population census. For the last 10 years, San Francisco and Los Angeles have ranked in the first six positions, reflecting lowest composite utility rates.

At the Warm Springs Dam Project, 70 miles north of San Francisco, a huge conveyor belt system has been installed to carry up to 8,250 tons of rocks per hour from one area of the project to another, 600 feet lower and 3,700 feet distant. In the process, the rocks generate electricity for Pacific Gas and Electric Company. Instead of a conventional brake system on the six-foot-wide conveyor belt, engineers have installed a generator. As the belt moves over the generator shaft, installed in the foreground building, a brakelike effect results. The generator has a capability of 3,900 kilowatts. PG&E will buy 2,000 kilowatts of the surplus generation and the remainder will be used on the dam construction project to power motors and equipment.

FORMAL AND INFORMAL PROCEEDINGS

Rate Revision Summary

Rate revisions authorized by the PUC are tabulated below. These revisions include increases and reductions authorized through formal and informal rate proceedings.

ANNUAL REVENUE INCREASES AND REDUCTIONS DUE TO RATE REVISIONS

Decisions Effective July 1, 1979 to June 30, 1980

Type of Utility	**Rate Revision**
Increases	
Gas	$1,825,709,664
Steam	2,685,100
Electric	2,333,537,250
Communications	307,300,000
Water	14,849,984
Sewer	301,300
Total	4,484,383,298
Reductions	
Gas	(70,964,146)
Steam	–
Electric	(143,550,000)
Communications	(42,200,000)
Water	–
Sewer	–
Total	(256,714,146)
Net Change	
Gas	1,754,745,518
Steam	2,685,100
Electric	2,189,987,250
Communications	265,100,000
Water	14,849,984
Sewer	301,300
Total	$4,227,669,152

FORMAL RATE PROCEEDINGS

There were 60 formal rate proceedings decided by the Commission in which rates became effective during fiscal year 1979–80. The Revenue Requirements, Communications, and Utilities Divisions staffs participated in these investigations. The following tabulation indicates that $4,228 million were authorized in all formal proceedings, 72% of the total requested. Of the $1,362 million requested in general rate increases, $475 million of increases were authorized, approximately 35% of the total general rate increases requested.

FORMAL RATE PROCEEDINGS

DECISIONS EFFECTIVE JULY 1, 1979 TO JUNE 30, 1980

Application No.	Utility	Rate Increase		Percent
		Requested	Authorized	
	Gas Proceedings			
54665	CP National	$64,754	$64,754	100.0[b]
59249 & 59406	Pacific Gas and Electric Co.	440,000,000	418,534,000	95.1[b]
59249 & 59406	Pacific Gas and Electric Co.	535,700,000	336,019,000	62.7[b]
58732	San Diego Gas & Electric Co.	43,000,000	21,824,900	50.8[b]
59296	Southern California Gas Co.	99,893,000	99,916,000	100.0[b]
58892 & 59045	Pacific Gas and Electric Co.	92,493,000	67,887,000	73.4[b]
58545 & 58546	Pacific Gas and Electric Co.	190,380,000	115,087,000	60.5[a]
54807	Southwest Gas Corp.	280,158	280,158	100.0[b]
59146	Southern California Gas Co.	289,085,000	287,044,000	99.3[b]
57953	CP National	76,640	76,640	100.0[b]
54807	Southwest Gas Corp.	2,127,111	2,127,111	100.0[b]
58892 & 59045	Pacific Gas and Electric Co.	415,721,000	371,293,000	89.3[b]
57819	CP National	677,579	677,579	100.0[b]
55789	Southwest Gas Corp.	281,343	281,343	100.0[b]
58724	Southern California Gas Co.	398,737,000	103,957,000	26.1[b]
55789	Southwest Gas Corp.	188,979	188,979	100.0[b]
57822	CP National	443,200	443,200	100.0[a]
57953	CP National	6,000	6,000	100.0[a]
	Total	$2,509,154,764	$1,825,709,664	72.8
	Rate Refunds	(70,964,146)	(70,964,146)	100.0[b]
	General Rate Increases	190,829,200	115,536,200	60.5[b]
	Total All Increases	$2,438,190,618	$1,754,745,518	72.0
	Steam Proceedings			
57202	Pacific Gas and Electric Co.	$496,000	$496,000	100.0[a]
	Pass Through Increases	2,189,100	2,189,100	100.0[b]
	General Rate Increase	496,000	496,000	100.0[a]
	Total All Increases	$2,685,100	$2,685,100	100.0

(Reduction)

[a] General rate case.

[b] Offset proceeding.

Public Utilities Commission Annual

1979

Application No.	Utility	Rate Increase		Percent
		Requested	Authorized	
	Water Proceedings			
58092	California Water Service Company	$67,800	$58,000	85.5%[a]
58094	California Water Service Company	73,800	39,700	53.8 [a]
58095	California Water Service Company	243,500	182,500	74.9 [a]
58096	California Water Service Company	373,900	291,700	78.0 [a]
57904	Park Water Company	1,967,475	1,579,400	80.3 [a]
57970	California Cities Water Company	125,800	34,500	27.4 [a]
58137	Southern California Water Company	95,900	71,700	74.8 [a]
57824	CP National	209,500	86,300	41.2 [a]
58308	Azusa Valley Water Company	322,133	211,600	65.7 [a]
58544	California-American Water Company	497,000	391,500	78.8 [a]
58416	San Gabriel Valley Water Company	1,860,633	1,454,500	78.2 [a]
58203	Southern California Water Company	75,185	39,700	52.8 [a]
58184	Del Este Water Company	308,700	103,400	33.5 [a]
58826	California Water Service Company	773,100	463,600	60.0 [a]
58781	California Water Service Company	711,700	456,300	64.1 [a]
58782	California Water Service Company	633,400	294,300	46.5 [a]
58783	California Water Service Company	393,400	232,500	59.1 [a]
58800	California Water Service Company	700,400	416,700	59.5 [a]
58440	Laguna Hills Water Company	392,300	52,700	13.4 [a]
59238	California-American Water Company	355,800	0	0 [a]
57712	Elk Grove Water Works	24,225	17,730	73.2 [a]
58202	Tustin Water Works	499,600	362,300	72.5 [a]
58329	Southern California Edison Company	58,800	58,800	100.0 [a]
59163	Donner Lake Utility Company	46,550	46,550	100.0 [a]
57462	Santa Clarita Water Company	657,000	350,200	53.3 [a]
58385	East Side Canal and Irrigation Company	54,330	25,080	46.2 [a]
	Total	$11,521,931	$7,321,260	63.5 [a]
	Pass Through Increases	7,872,886	7,528,724	95.6 [b]
	General Rate Increases	11,521,931	7,321,260	63.5 [a]
	Total All Increases	$19,394,817	$14,849,984	76.6
	Sewer Proceedings			
58275	Laguna Hills Sanitation	$671,500	$166,100	24.7 [a]
58275	Laguna Hills Sanitation	672,637	135,200	20.1 [a]
	Total All Increases	$1,344,137	$301,300	22.4

(Reduction)

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[a] General rate case.

[b] Offset proceeding.

Public Utilities Commission Annual

ELECTRIC PROCEEDINGS

Application No.	Utility	Rate Increase		Percent
		Requested	Authorized	
59463	Pacific Gas and Electric Co.	$808,462,000	$774,300,000	95.8[b]
59248	Pacific Gas and Electric Co.	484,742,000	440,008,700	90.8[b]
58891	Pacific Gas and Electric Co.	131,000,000	128,199,000	97.9[b]
58468	Pacific Gas and Electric Co.	(143,550,000)	(143,550,000)	100.0[b]
58764	Southern California Edison Co.	466,573,000	431,591,000	92.5[b]
58393	Southern California Edison Co.	71,000,000	69,629,000	98.1[b]
59643	San Diego Gas & Electric Co.	240,000,000	209,200,000	87.2[b]
59409	San Diego Gas & Electric Co.	152,300,000	152,300,000	100.0[b]
59108	San Diego Gas & Electric Co.	43,100,000	41,500,000	96.3[b]
58656	San Diego Gas & Electric Co.	1,580,900	547,750	34.6[b]
57819	CP National	686,600	492,800	71.8[a]
91107	Pacific Gas and Electric Co.	216,433,000	85,769,000	39.6[a]
	Total	$2,472,327,500	$2,189,987,250	88.6
	Pass Through Increases	$2,255,207,900	$2,103,725,450	93.3[b]
	General Rate Increases	217,119,600	86,261,800	39.7
	Total All Increases	$2,472,327,500	$2,189,987,250	88.6

Communications Proceedings

Application No.	Utility	Requested	Authorized	Percent
58223	The Pacific Telephone and Telegraph Co.	$470,000,000	$(42,200,000)	(9.0)[a]
58223	The Pacific Telephone and Telegraph Co.	43,500,000	43,500,000	100.0[a]
58223	The Pacific Telephone and Telegraph Co.	45,952,079	36,600,000	79.6[a]
59269	The Pacific Telephone and Telegraph Co.	381,000,000	227,200,000	59.6[a]
	Total All Increases	$940,452,079	$265,100,000	28.2

[a] General rate case.

[b] Offset proceeding.

ALL FORMAL PROCEEDINGS

	Rate Increase		Percent
	Requested	Authorized	
Total of Pass Through Increases	$4,583,595,450	$3,823,616,738	83.4%
Total of General Rate Increases	1,361,762,947	475,016,560	34.9
Reductions	(70,964,146)	(70,964,146)	100.0
Total of All Proceedings	5,874,394,251	4,227,669,152	72.0

(Reduction)

Table 4
OPERATING REVENUE OF LARGE UTILITIES IN CALIFORNIA
Years 1970 through 1979

(Dollars in Thousands)

End-of-Year	Gas*	Steam	Electric	Water	Telephone	Total	Annual Incr.
1970	$1,059,639	$1,576	$1,473,694	$97,669	$2,502,750	$5,135,328	7%
1971	1,213,355	1,750	1,646,063	105,735	2,717,268	5,684,171	11
1972	1,262,144	1,730	1,859,381	115,033	2,943,864	6,182,152	9
1973	1,320,123	1,982	2,113,306	118,627	3,288,807	6,842,845	11
1974	1,473,583	1,837	2,690,982	123,659	3,603,159	7,893,220	15
1975	2,023,325	2,747	3,069,852	135,638	3,989,035	9,220,597	17
1976	2,215,931	3,342	3,549,868	156,292	4,440,786	10,366,219	12
1977	2,596,509	3,327	4,437,762	151,587	4,957,906	12,147,091	17
1978	2,806,942	3,834	4,943,436	161,986	5,549,300	13,465,498	11
1979	3,796,111	3,786	5,038,932	178,173	6,136,413	15,153,415	13
Annually Compounded Growth Rate 1970-1979	13.6%	9.2%	13.1%	6.2%	9.4%	11.4%	–

* Reverue less interdepartmental sales.

Table 4A
UTILITY PLANT OF LARGE UTILITIES IN CALIFORNIA
Years 1970 through 1979

(Dollars in Thousands)

End-of-Year	Gas¹	Steam	Electric	Water	Telephone	Total¹	Annual Incr.
1970	$2,361,614	$6,050	$7,490,448	$507,558	$7,569,770	$17,935,440	7%
1971	2,464,365	7,315	8,254,428	554,361	8,277,352	19,557,821	9
1972	2,585,758	6,894	8,704,580	603,366	9,051,245	20,951,843	7
1973	2,724,386	7,303	9,222,695	619,480	9,879,537	22,453,401	7
1974	2,873,115	7,073	9,787,542	649,666	10,661,324	23,978,720	7
1975	3,048,225	7,209	10,308,529	675,697	11,570,071	25,609,731	7
1976	3,243,001	9,989	10,839,445	689,946	12,484,380	27,266,761	6
1977	3,402,538	10,385	11,462,374	726,664	13,697,698	29,299,659	7
1978	3,571,350	10,485	12,235,252	789,126	15,221,648	31,827,861	9
1979	3,764,462	10,625	12,895,178	810,625	17,200,592	34,681,482	9
Annually Compounded Growth Rate 1970-1979	4.8%	5.8%	5.6%	4.8%	8.6%	6.8%	–

[1] Gas plant data 1973-1976 revised to include common plant of Southwest Gas Corp. per annual reports of company from 1973 to present. Totals are revised accordingly.

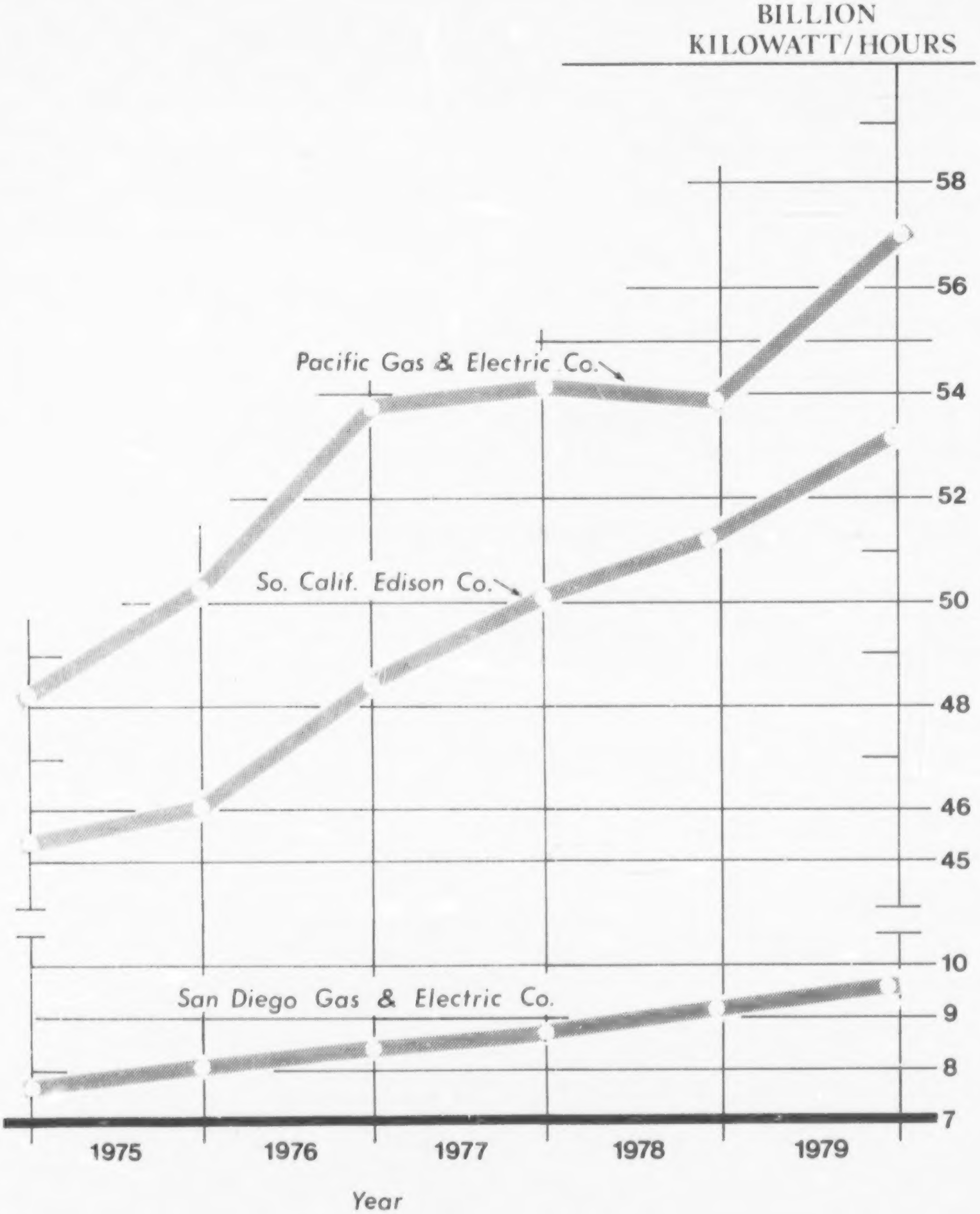
Table 4B
CUSTOMERS OF LARGE UTILITIES IN CALIFORNIA
Years 1970 through 1979

(Customers in Thousands)

End-of-Year	Gas	Steam	Electric	Water	Telephone*	Total	Annual Incr.
1970	5,795	0.4	5,537	965	7,543	19,841	3%
1971	5,891	0.4	5,703	1,010	7,752	20,357	3
1972	6,010	0.4	5,853	1,036	8,040	20,940	3
1973	6,133	0.4	6,078	1,052	8,361	21,625	3
1974	6,258	0.4	6,252	1,068	8,607	22,186	3
1975	6,417	0.4	6,404	1,099	8,897	22,818	3
1976	6,556	0.3	6,577	1,124	9,212	23,470	3
1977	6,722	0.3	6,795	1,106	9,671	24,295	4
1978	6,894	0.3	7,007	1,124	10,022	25,047	3
1979	7,067	0.3	7,233	1,138	10,461	25,899	3
Annually Compounded Growth Rate 1970-1979	2.0%	(2.8%) (Red Figure)	2.7%	1.7%	3.3%	2.7%	–

* Company main stations

Major Electric Utilities Electricity Sales - Other Than Resale Recorded



A COMPARISON OF UTILITY BILLS IN THE 25 LARGEST CITIES IN THE UNITED STATES AS OF JUNE 30, 1980

City	Population 1970 Census	Gas 70 Therms	Electric 300 kWh	Telephone 1-Party Flat Rate	Total Monthly Bill
Memphis	623,530	$17.42	$10.74[1]	$10.80	$38.96
San Antonio	654,153	21.50	16.71[1]	7.15[2]	45.36
Dallas	844,401	18.76	19.77	7.65[2]	46.18
San Diego	696,769	20.48*	20.70	4.93[2,3]	46.11
Los Angeles	2,814,152	20.96*	21.82[1]	5.19[2,3]	47.97
San Francisco	715,674	28.51*	15.28	5.19[2,3]	48.98
New Orleans	593,471	23.33	14.56	11.10	48.99
Indianapolis	744,624	23.30	14.57	11.25	49.12
Denver	514,678	25.09	16.78	8.00	49.87
St. Louis	622,236	25.08	17.38	8.50	50.96
Washington, D.C.	756,510	26.50	15.82	9.65	51.97
Seattle	530,831	40.96	3.95[1]*	8.25	53.16
Detroit	1,511,482	26.32	18.81	8.75[2]	53.88
Pittsburgh	520,117	25.45	22.27	6.37[2,4]	54.09
Milwaukee	717,298	28.42	17.00	9.50	54.92
Chicago	3,366,957	26.39	22.99	5.55[2,6]	54.93
Houston	1,232,802	27.31	19.82	8.15[2]	55.28
Columbus	539,677	26.40	19.89	10.70	56.99
Cleveland	750,903	25.27	20.37	11.95	57.59
Phoenix	581,562	25.75	22.57	9.50	57.82
Philadelphia	1,948,809	30.01	22.43	6.94[2,4]	59.38
Jacksonville	528,865	28.85	21.70[1]	11.05	61.60
Boston	642,071	34.36	24.45	9.70[2]	68.51
Baltimore	905,759	31.08	32.08	9.42[2]	72.58
New York	7,367,000	42.60	31.49*	6.04[5]	80.13

* Average summer and winter rates.

[1] Municipally-owned utility.

[2] Additional instrument charge applied to utility-owned phones.

[3] Includes California Proposition 13 discount of 13.54%.

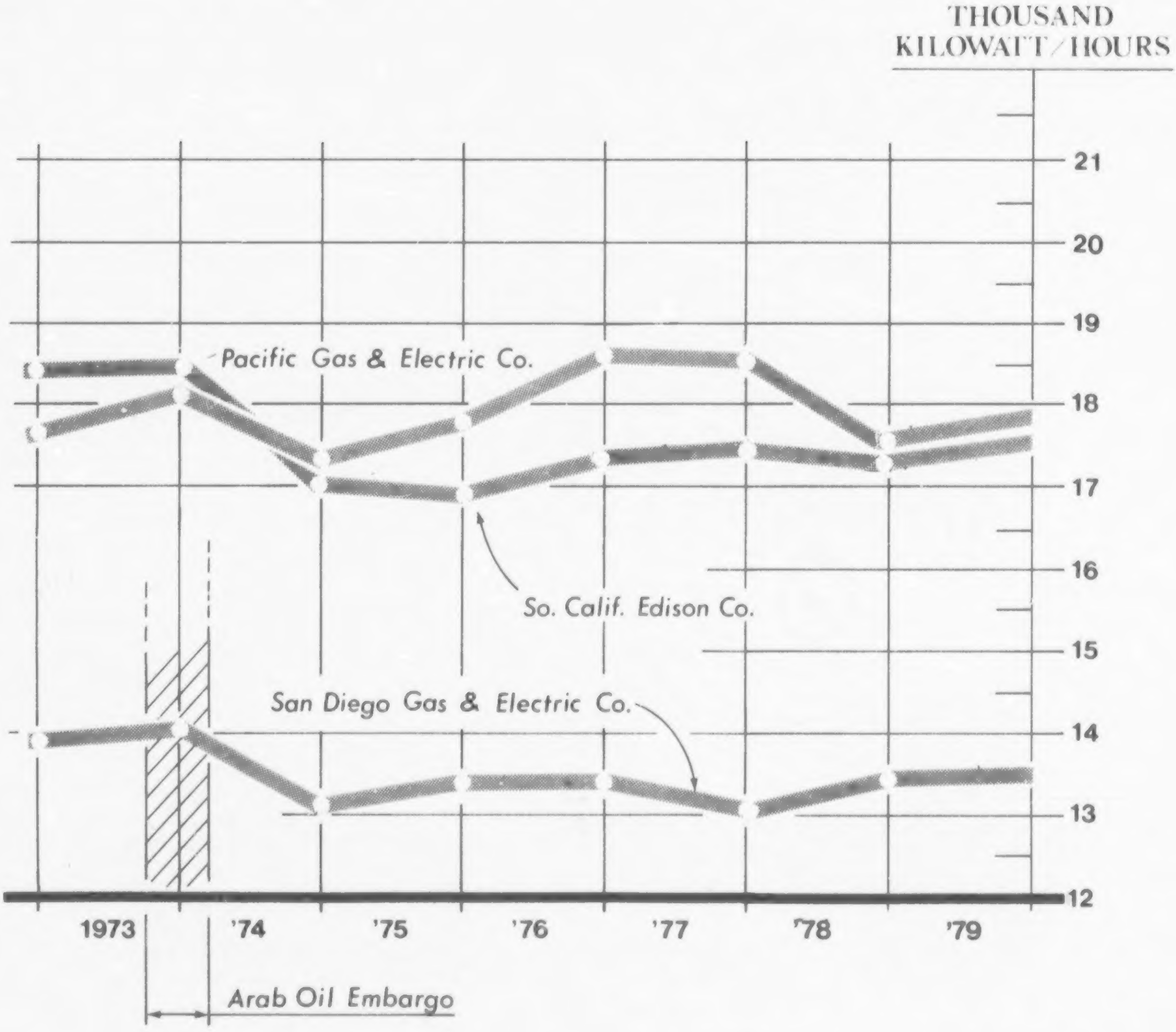
[4] Includes surcharge of 4.03% added to tariff charges effective April 1, 1980.

[5] Unlimited residence message rate service to points within primary calling area includes a monthly allowance for local calls

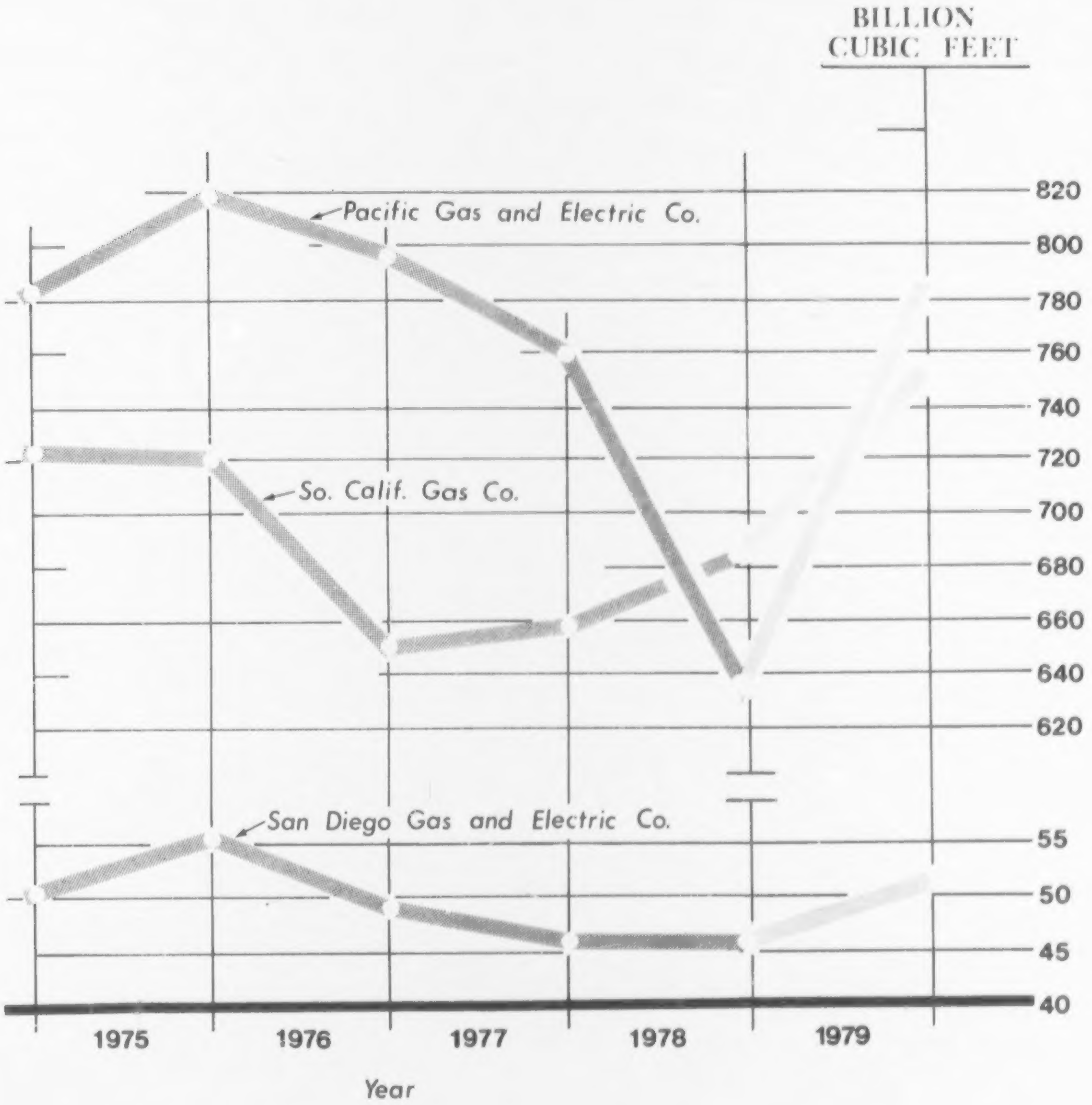
[6] Message unit rate with 80-message unit allowance

Note: Federal, state and local taxes excluded.

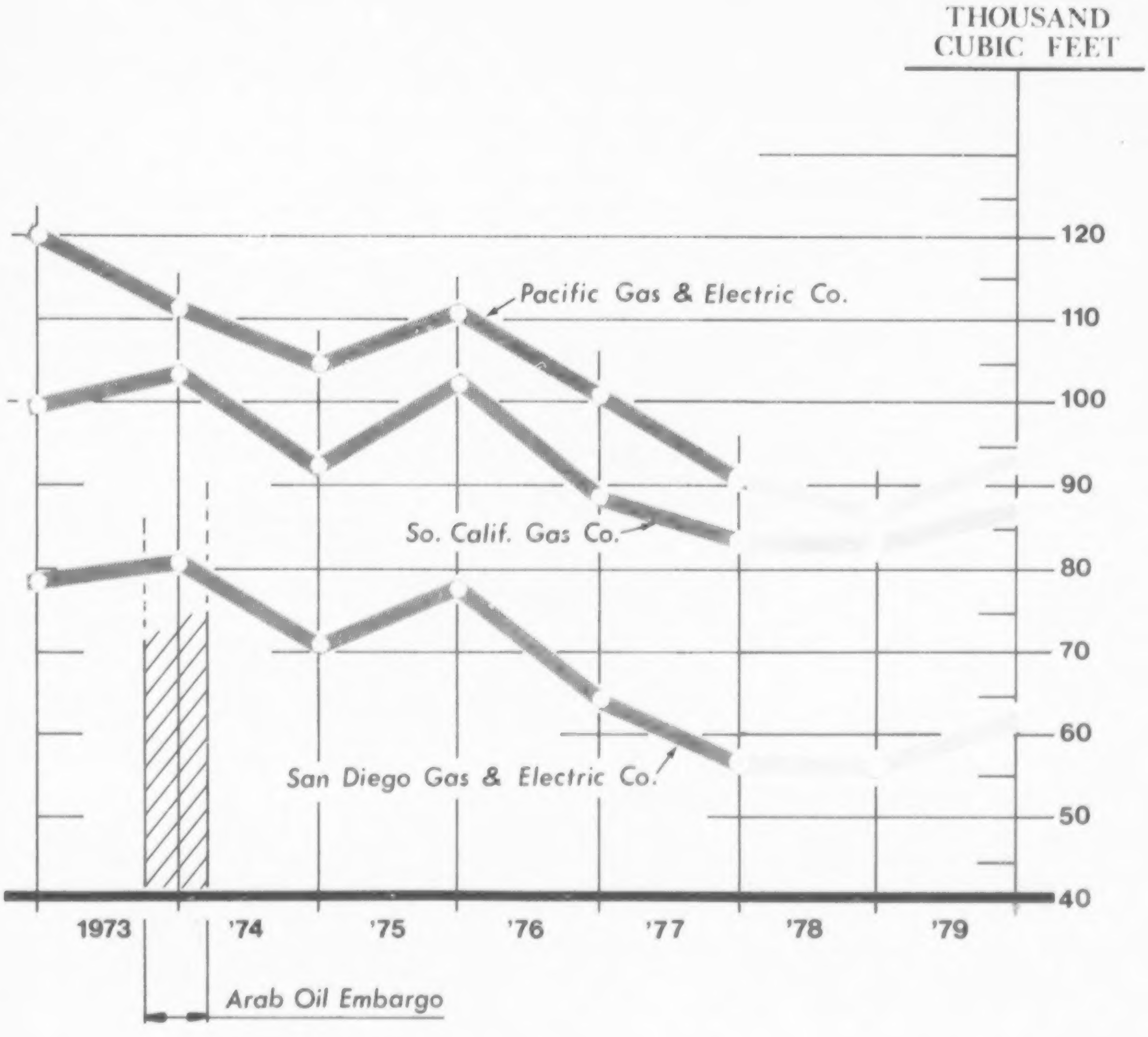
Major Electric Utilities Average Electric Sales/Customer Recorded



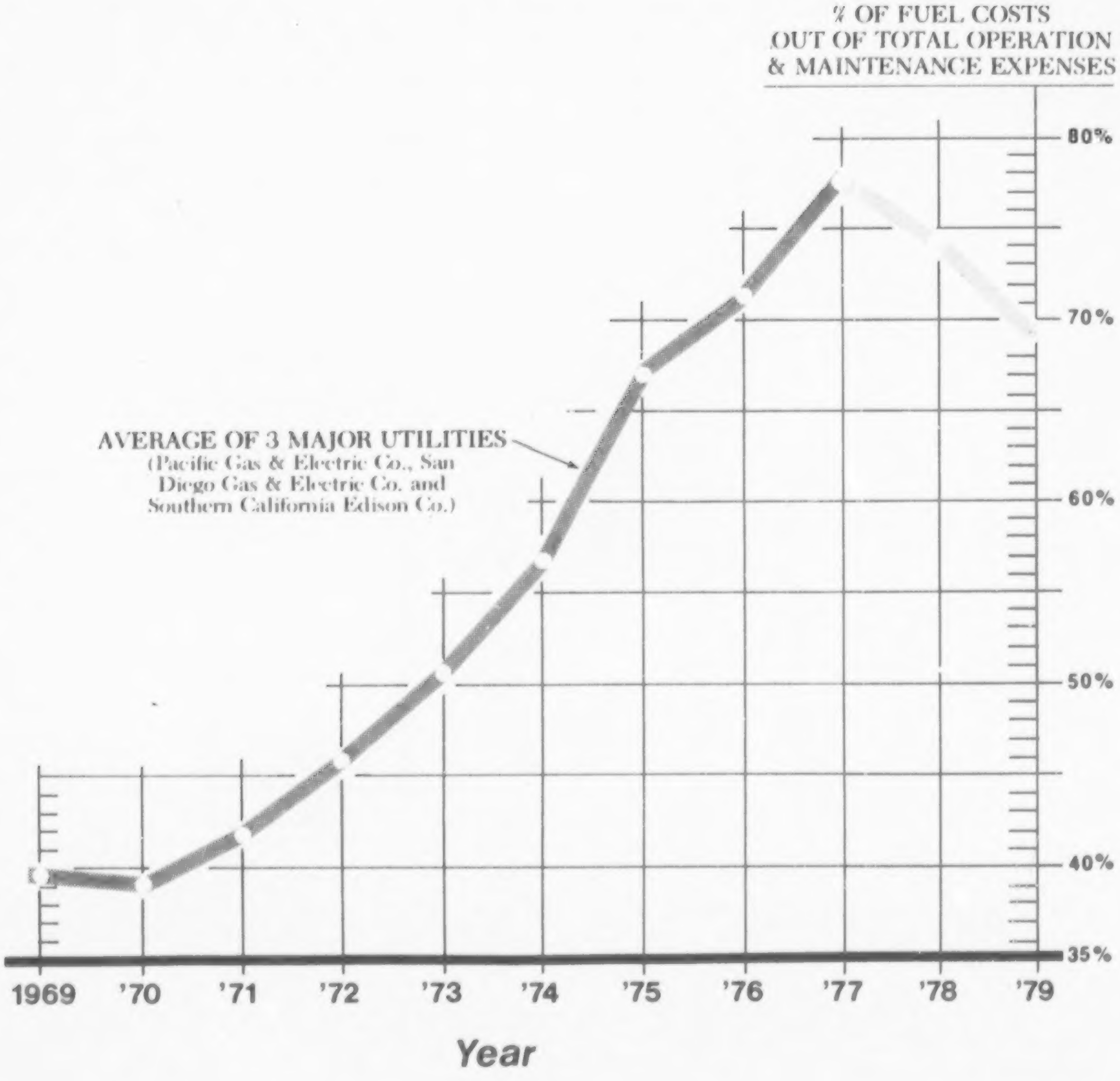
Major Gas Utilities
Gas Sales - Other Than Resale
Recorded



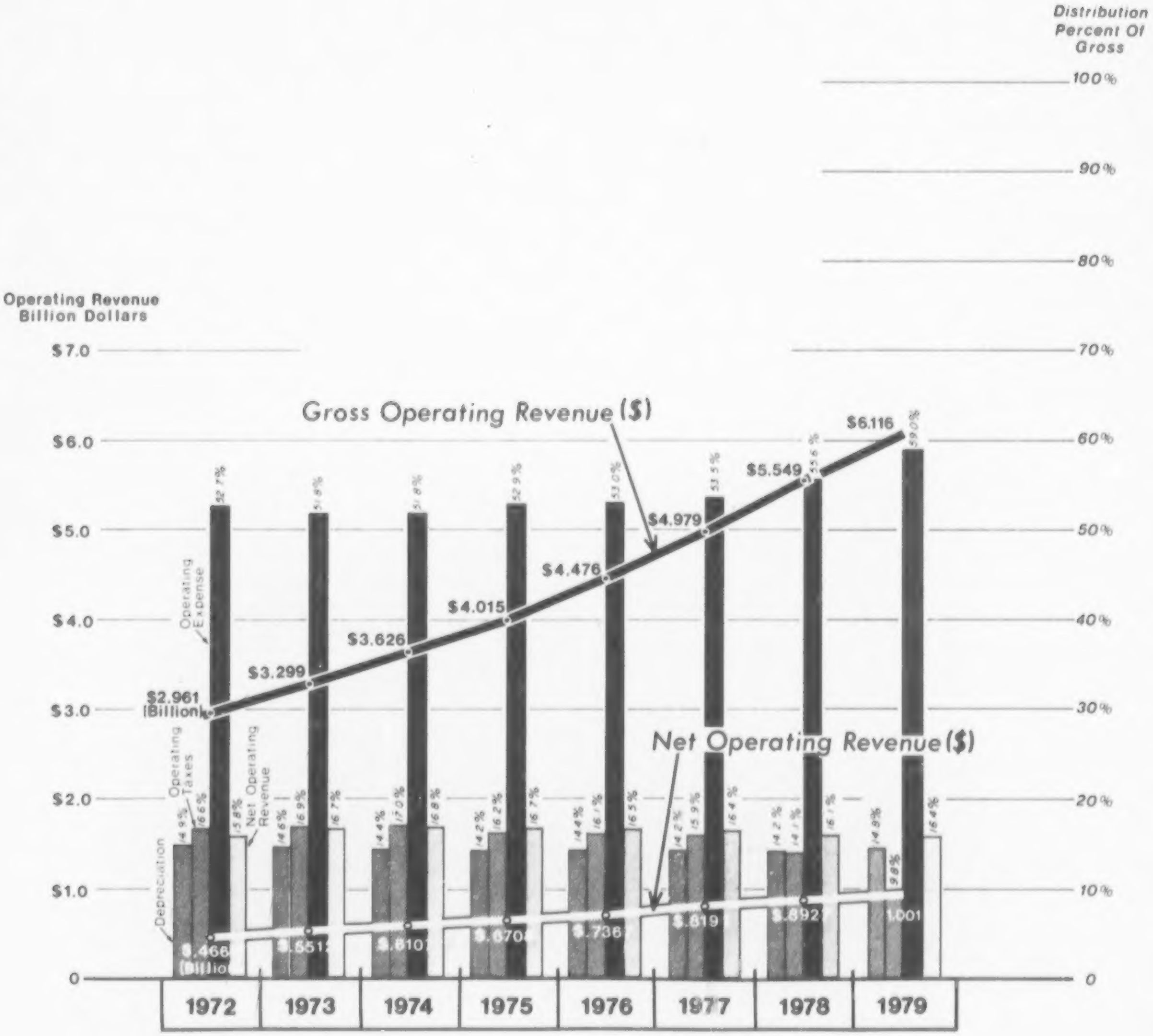
Major Gas Utilities
Residential Gas Sales/Customer
Recorded



Fuel Cost as a Percentage of Total Operation and Maintenance Expense of Generating Electricity

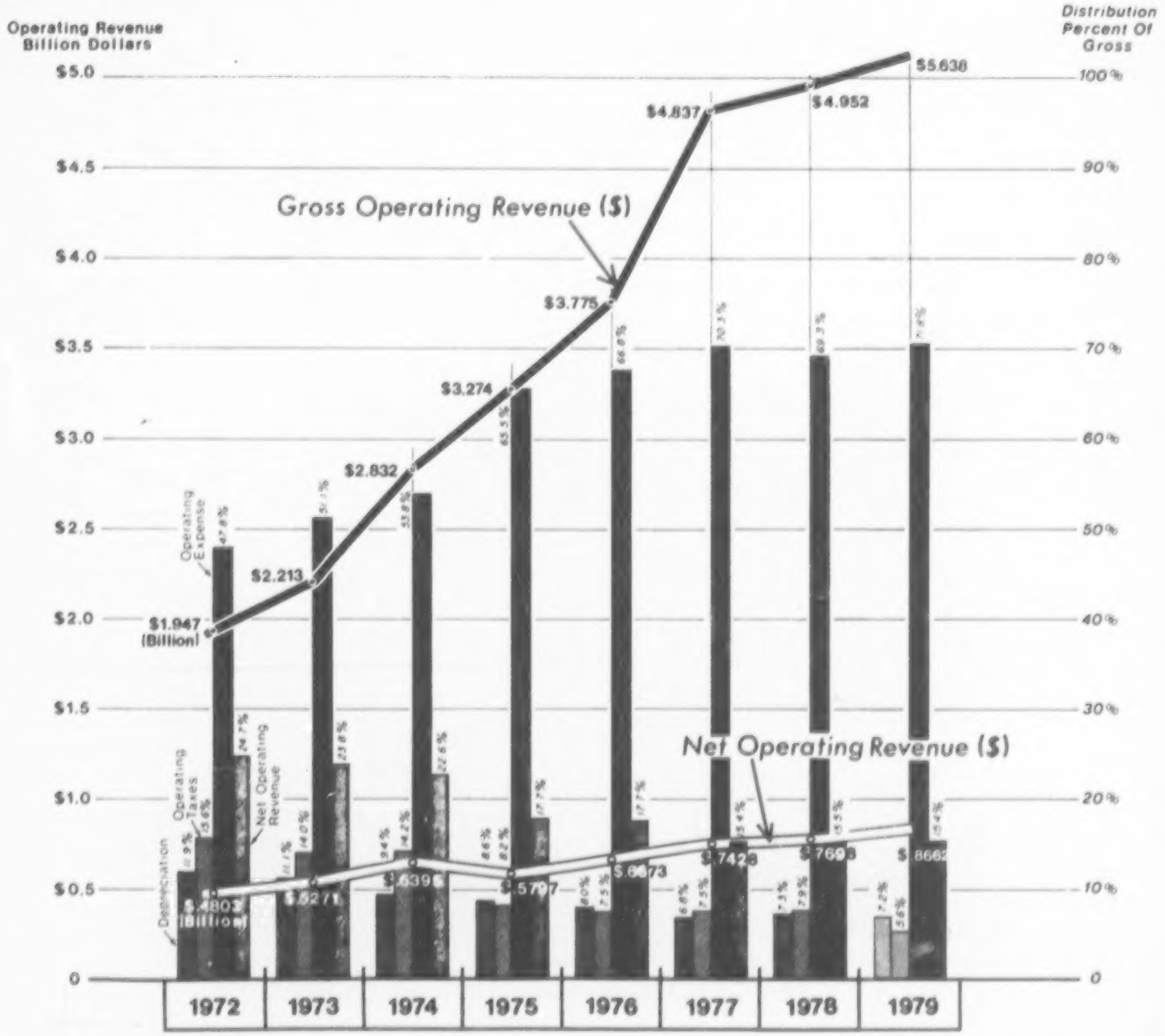


DISTRIBUTION OF
GROSS OPERATING REVENUE LARGE TELEPHONE UTILITIES
IN CALIFORNIA



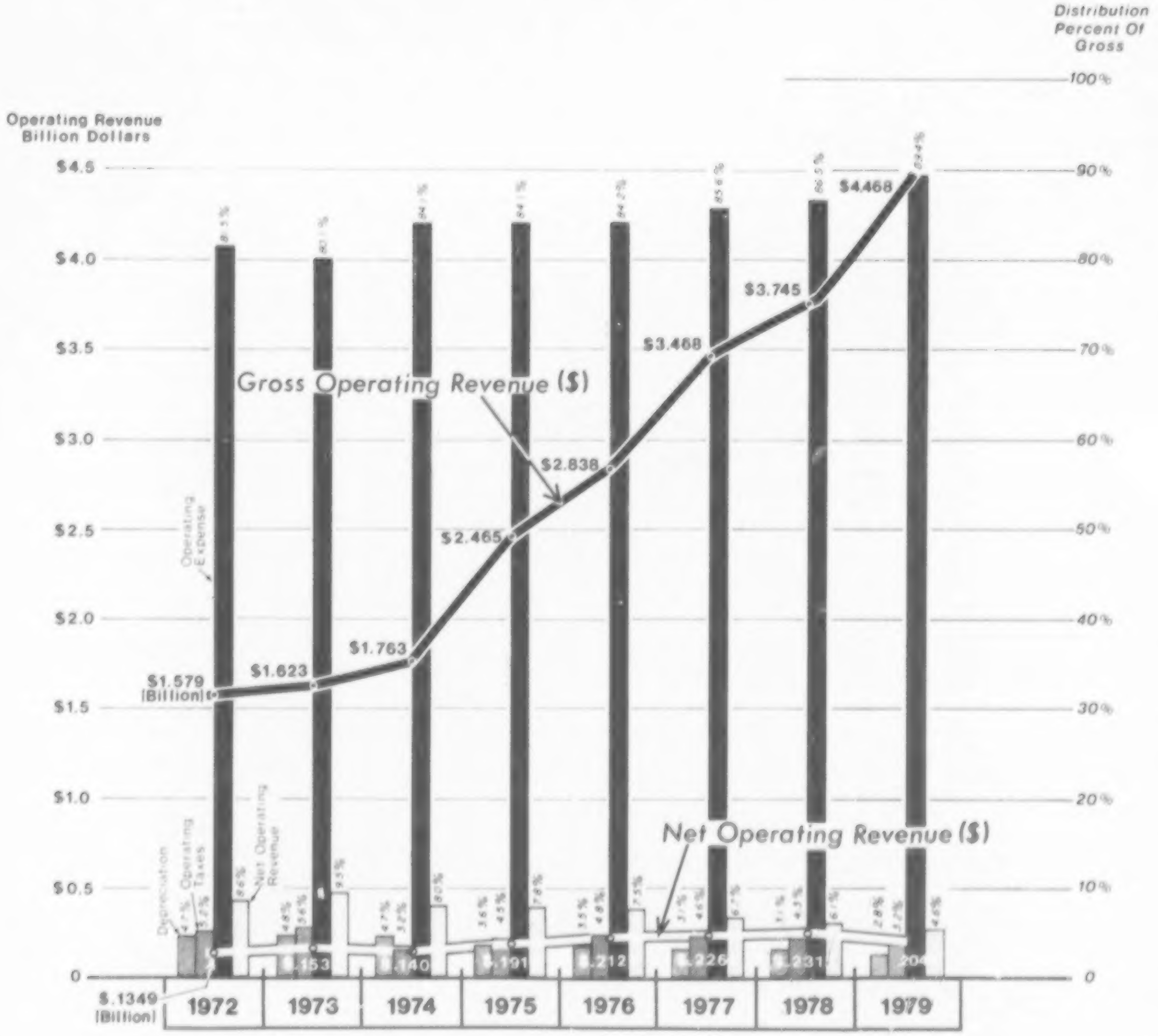
NOTE: Distribution percentage allotted to Depreciation + Operating Taxes + Operating Expenses + Net Operating Revenue = 100% = Gross Operating Revenue.

DISTRIBUTION OF
GROSS OPERATING REVENUE LARGE ELECTRIC UTILITIES IN CALIFORNIA



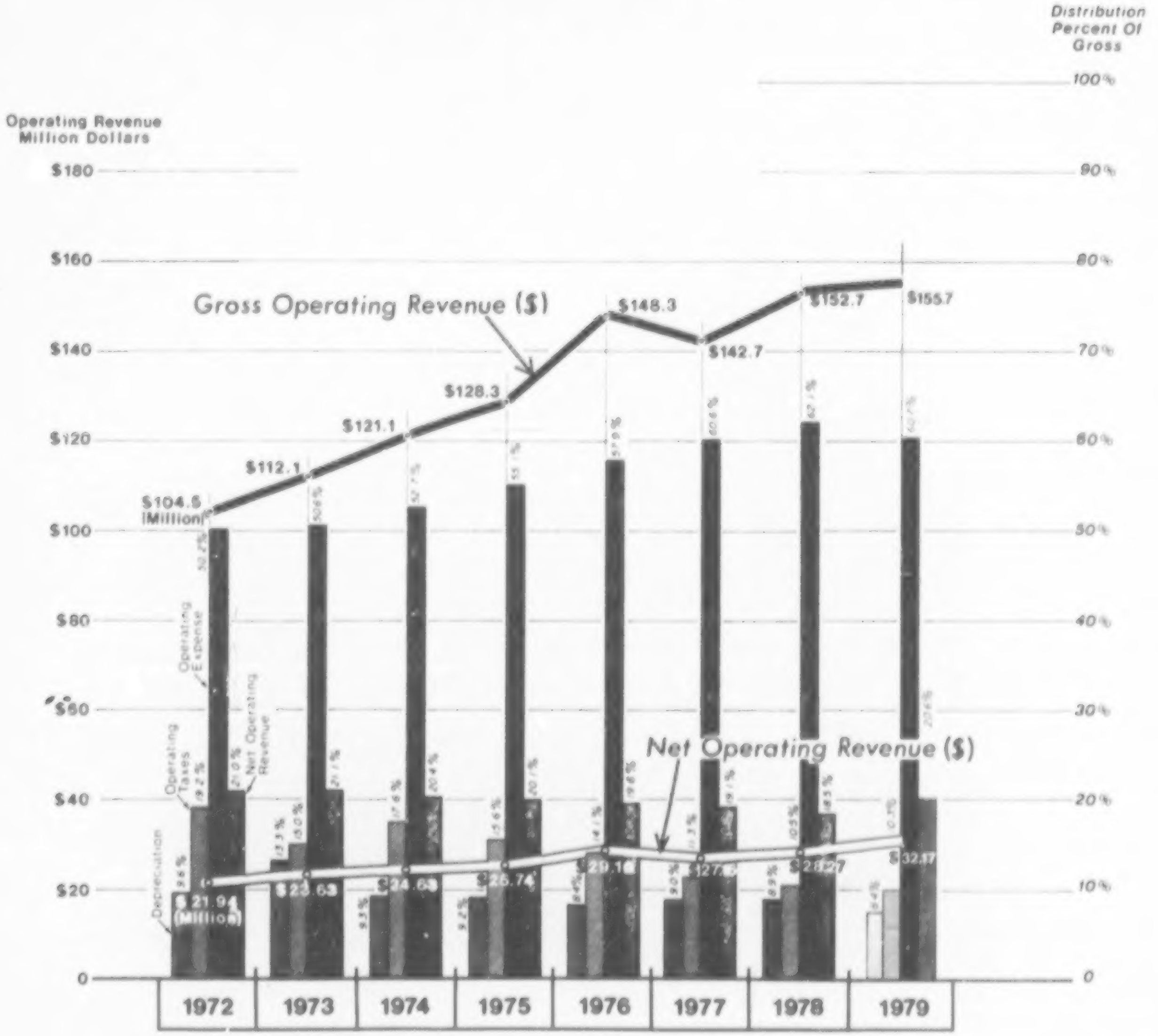
NOTE: Distribution percentage allotted to Depreciation + Operating Taxes + Operating Expenses + Net Operating Revenue = 100% = Gross Operating Revenue.

DISTRIBUTION OF
GROSS OPERATING REVENUE
LARGE GAS UTILITIES
IN CALIFORNIA

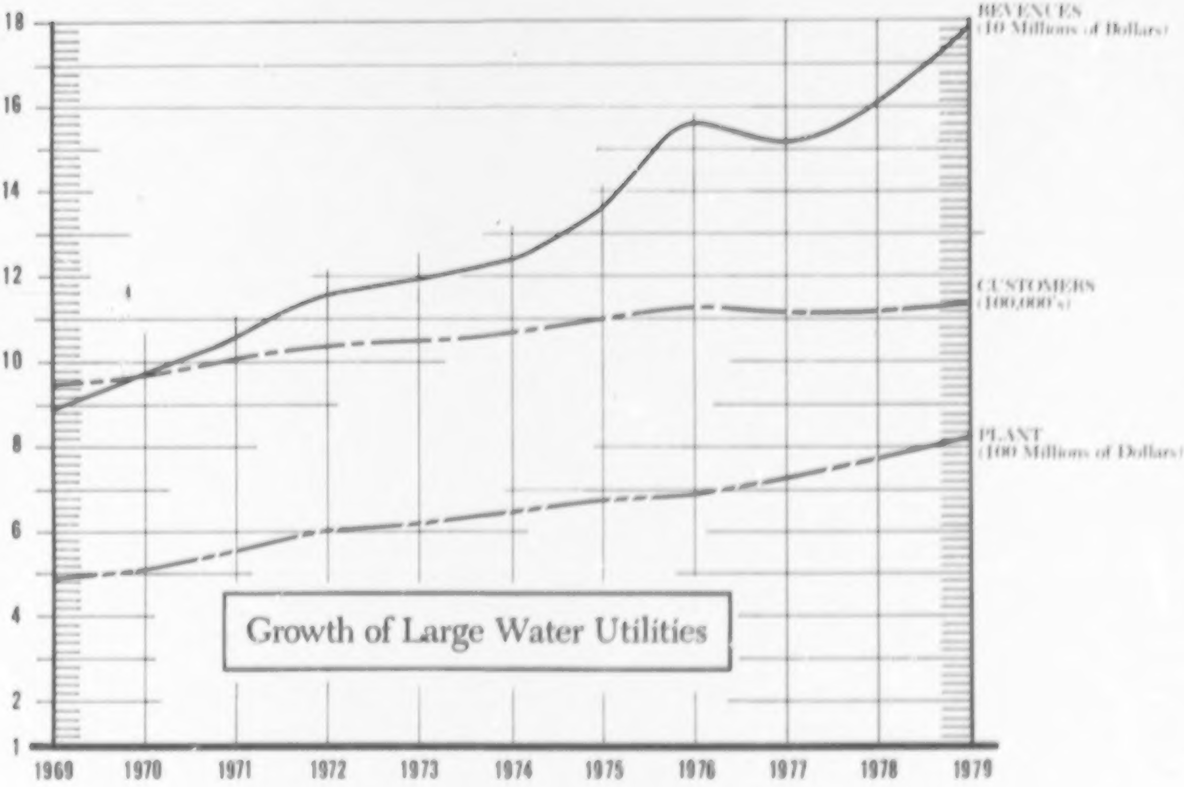


NOTE: Distribution percentage allotted to Depreciation + Operating Taxes + Operating Expenses + Net Operating Revenue = 100% = Gross Operating Revenue.

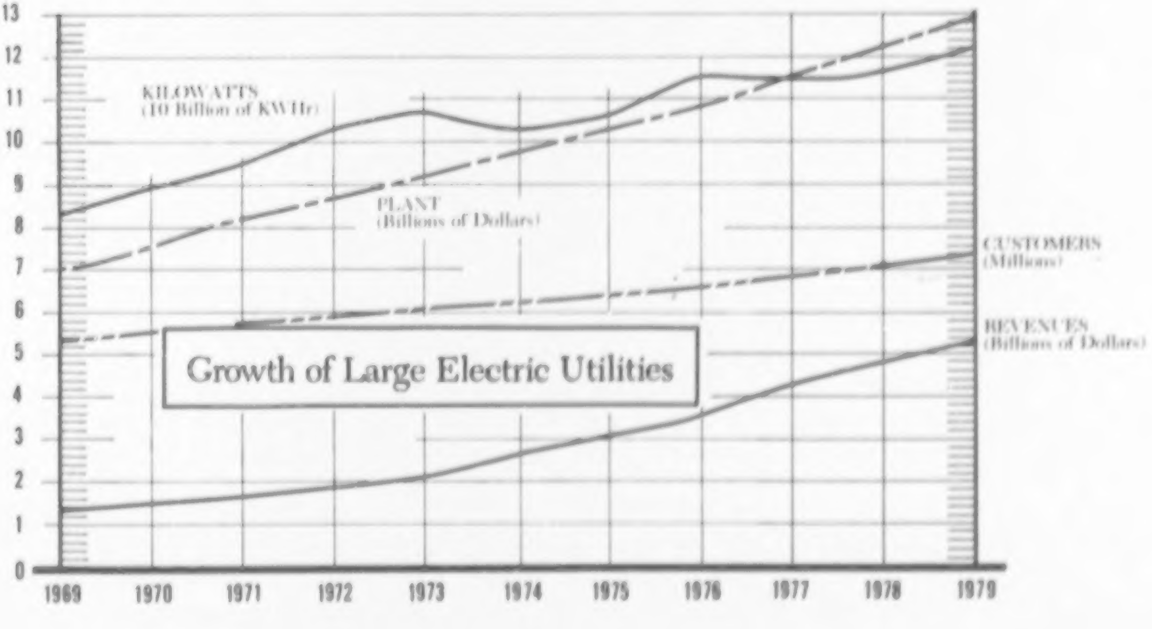
DISTRIBUTION OF
GROSS OPERATING REVENUE LARGE WATER UTILITIES
IN CALIFORNIA



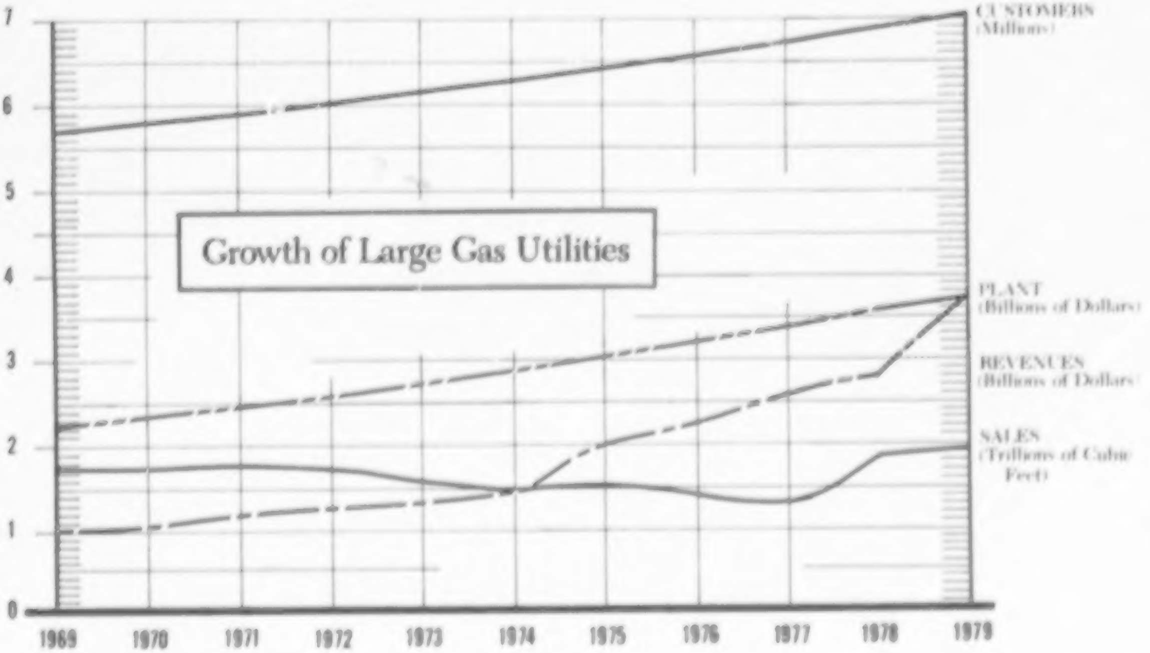
NOTE: Distribution percentage allotted to Depreciation + Operating Taxes + Operating Expenses + Net Operating Revenue = 100% = Gross Operating Revenue.



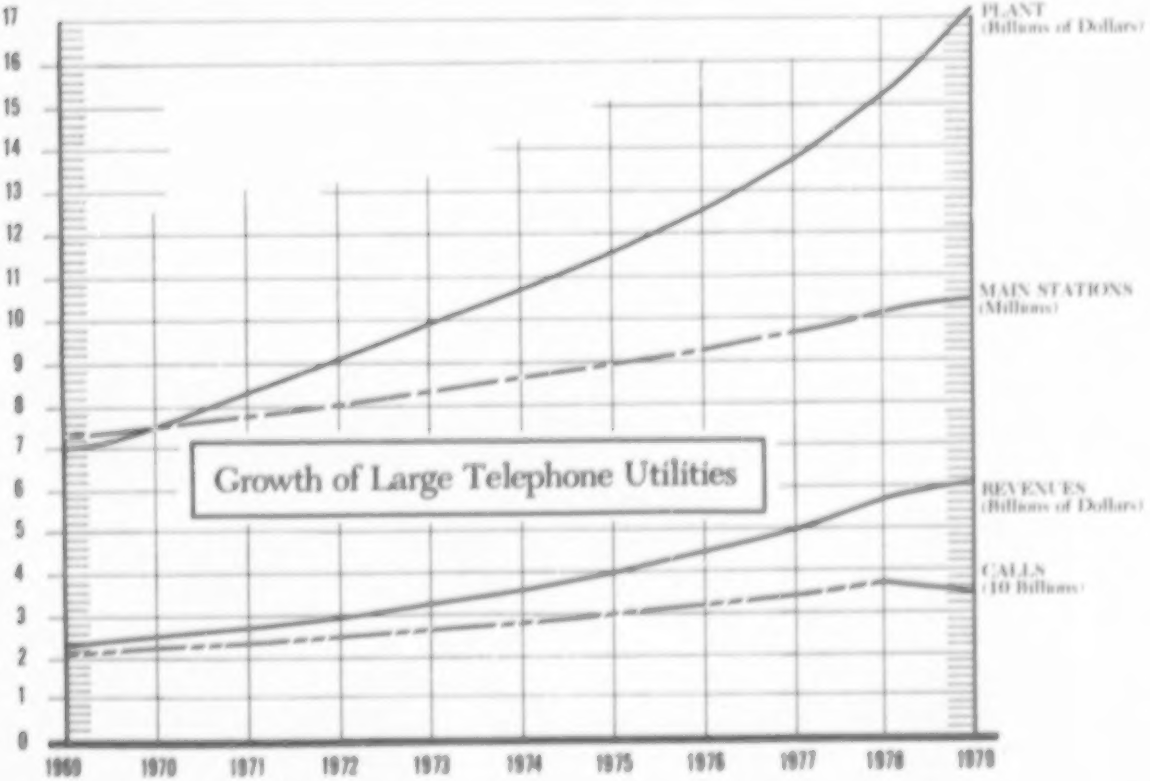
Growth of Large Water Utilities



Growth of Large Electric Utilities



Growth of Large Gas Utilities



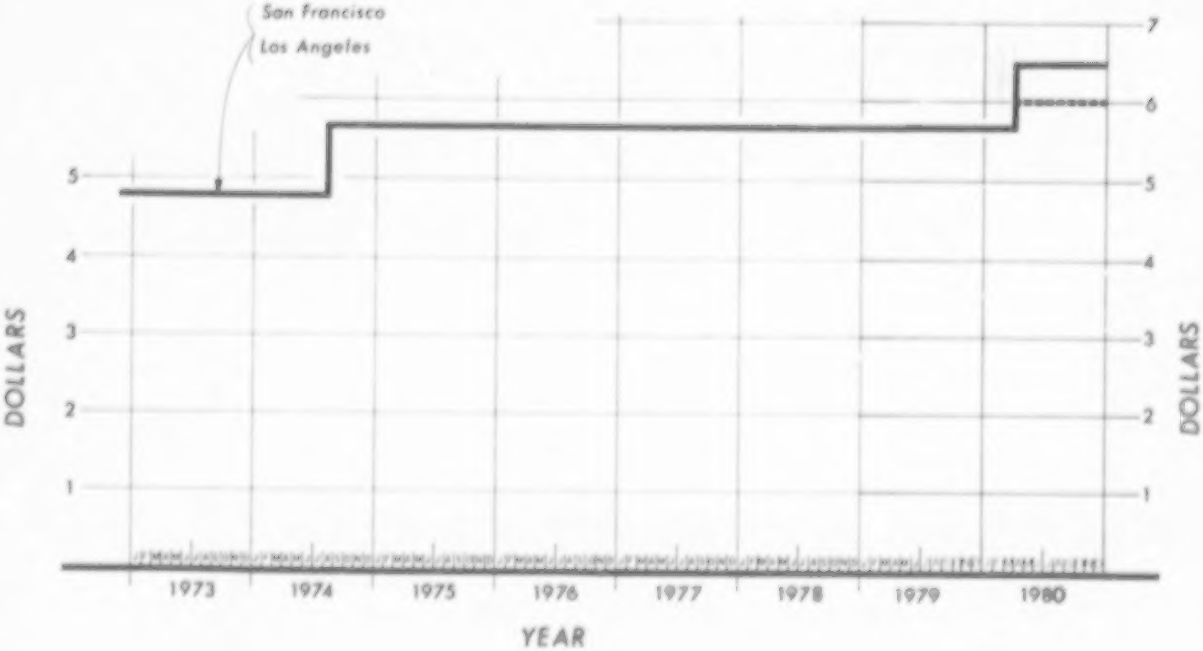
Growth of Large Telephone Utilities

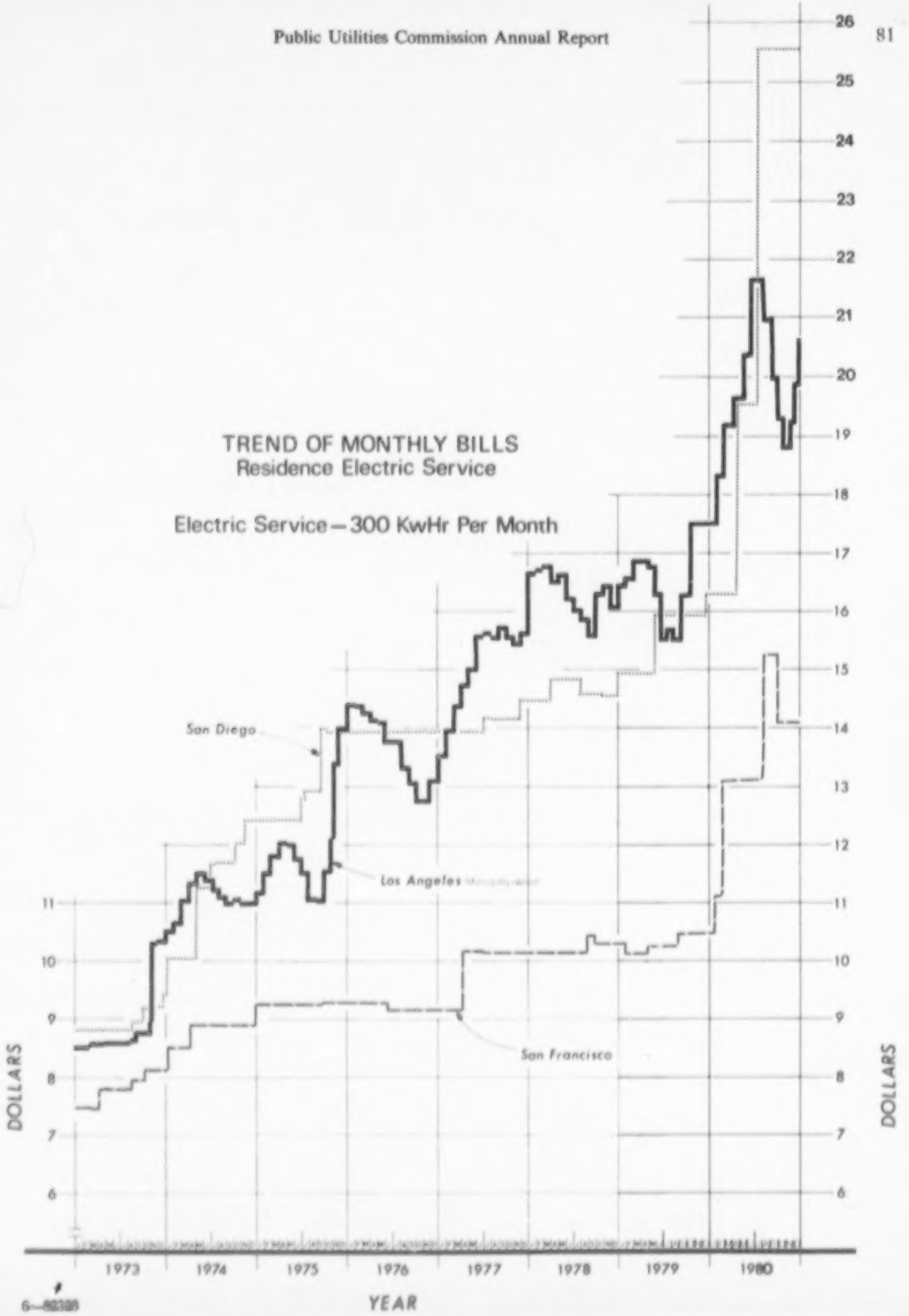
TREND OF MONTHLY BILLS
Residence Telephone Service

Telephone Service—One-Party, Flat Rate

- - - - - Basic Service with customer providing equip.

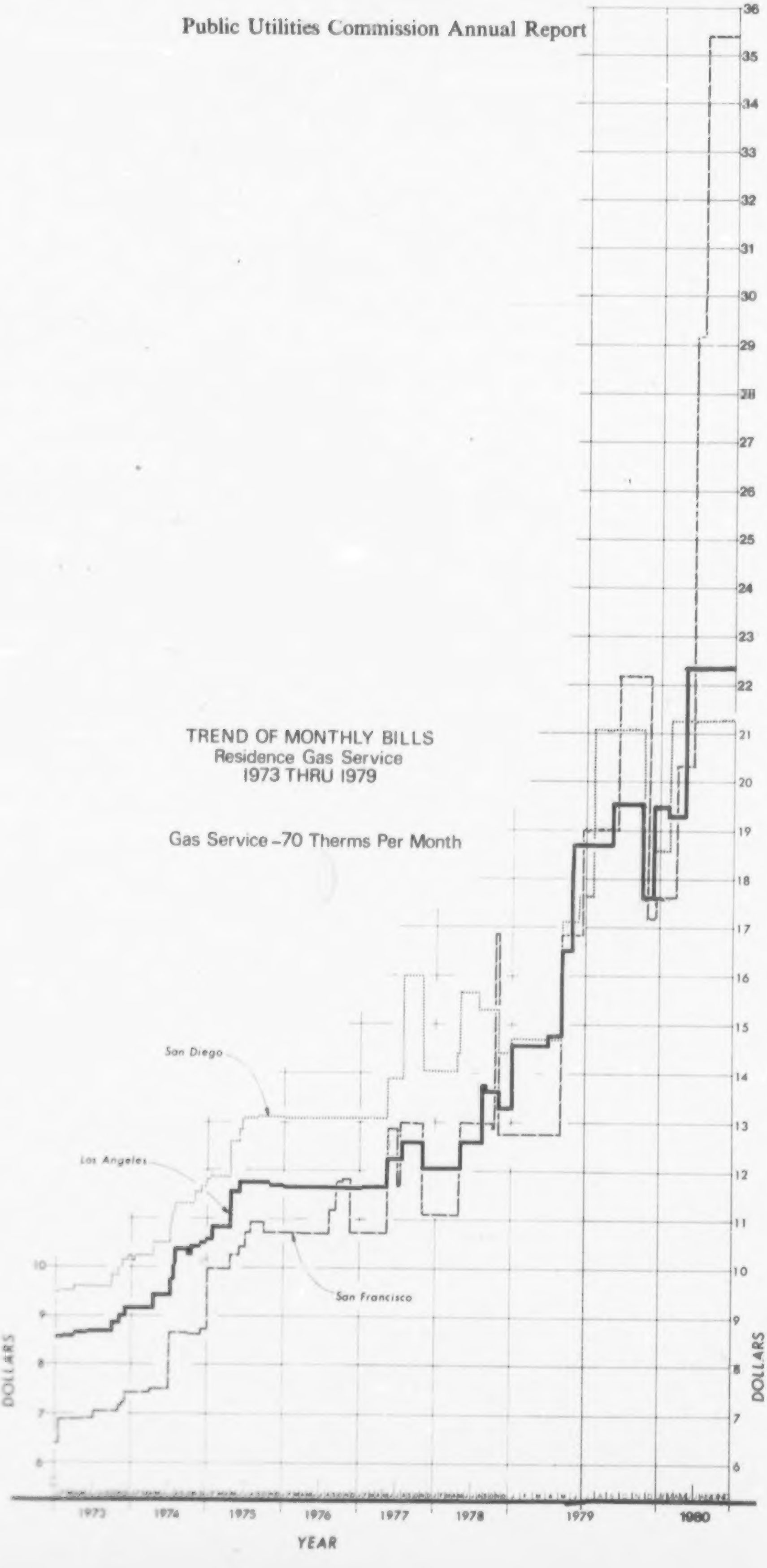
—— Includes $.60 for Utility providing equip.
(Since April 22,1980)





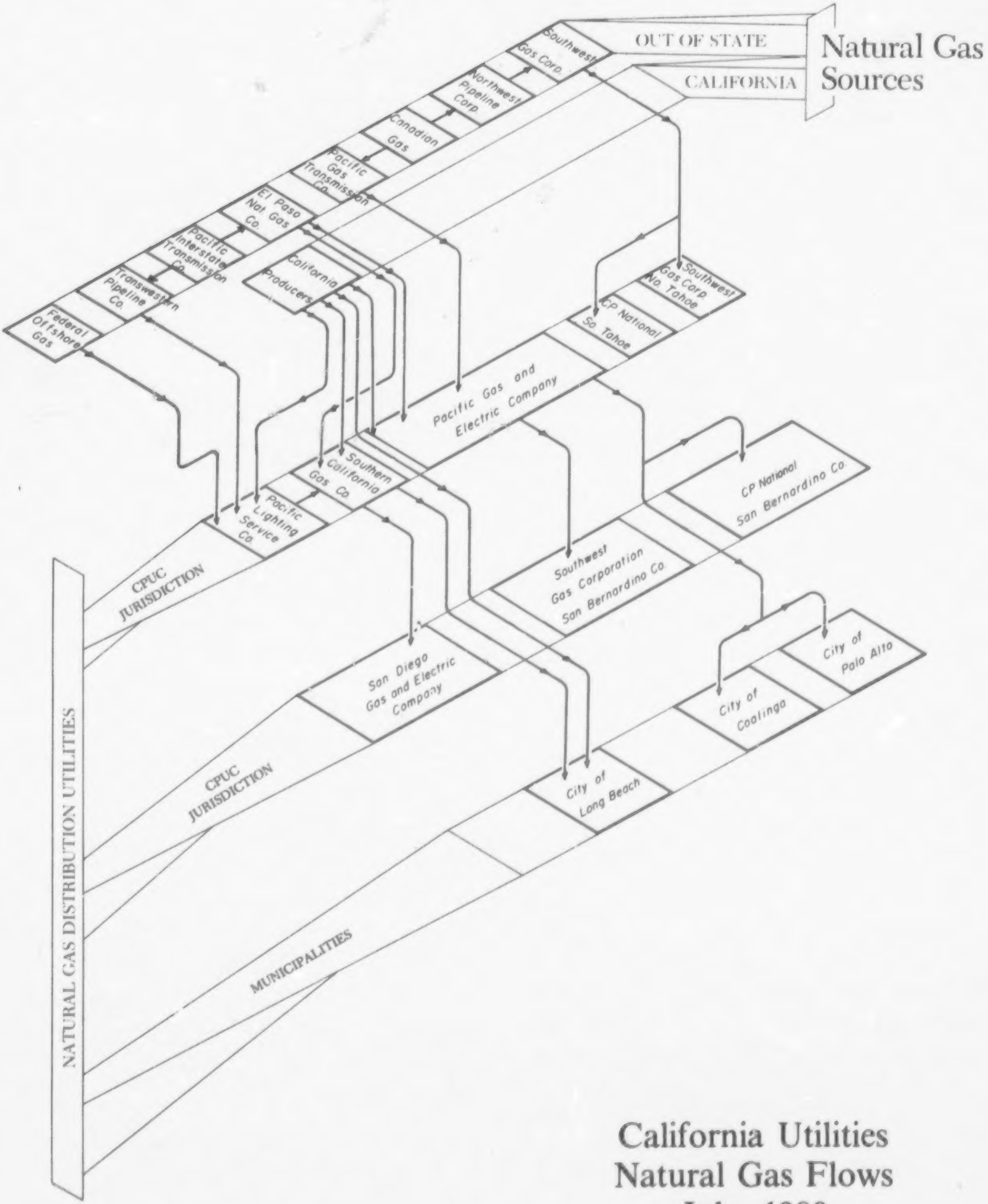
TREND OF MONTHLY BILLS
Residence Electric Service

Electric Service—300 KwHr Per Month



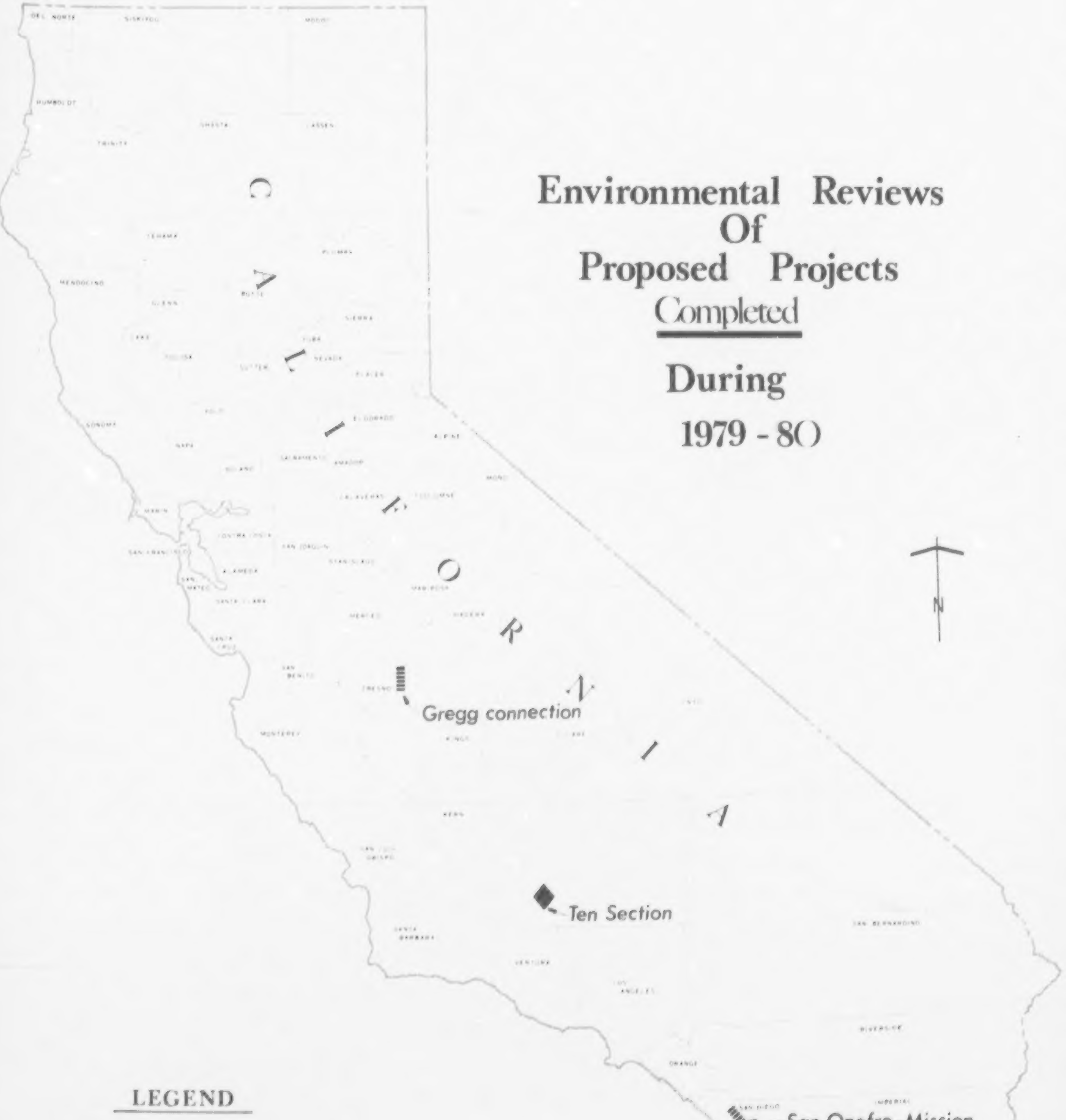
TREND OF MONTHLY BILLS
Residence Gas Service
1973 THRU 1979

Gas Service – 70 Therms Per Month


Natural Gas Sources
OUT OF STATE
CALIFORNIA
Southwest Gas Corp.
Northwest Pipeline Corp.
Canadian Gas
Pacific Gas Transmission Co.
El Paso Nat. Gas Co.
Pacific Interstate Transmission Co.
Transwestern Pipeline Co.
Federal Offshore Gas
California Producers
Southwest Gas Corp. No. Tahoe
CP National So. Tahoe
Pacific Gas and Electric Company
Southern California Gas Co.
Pacific Lighting Service Co.
CP National San Bernardino Co.
Southwest Gas Corporation San Bernardino Co.
San Diego Gas and Electric Company
City of Palo Alto
City of Coalinga
City of Long Beach
CPUC JURISDICTION
CPUC JURISDICTION
MUNICIPALITIES
NATURAL GAS DISTRIBUTION UTILITIES

California Utilities
Natural Gas Flows
July, 1980

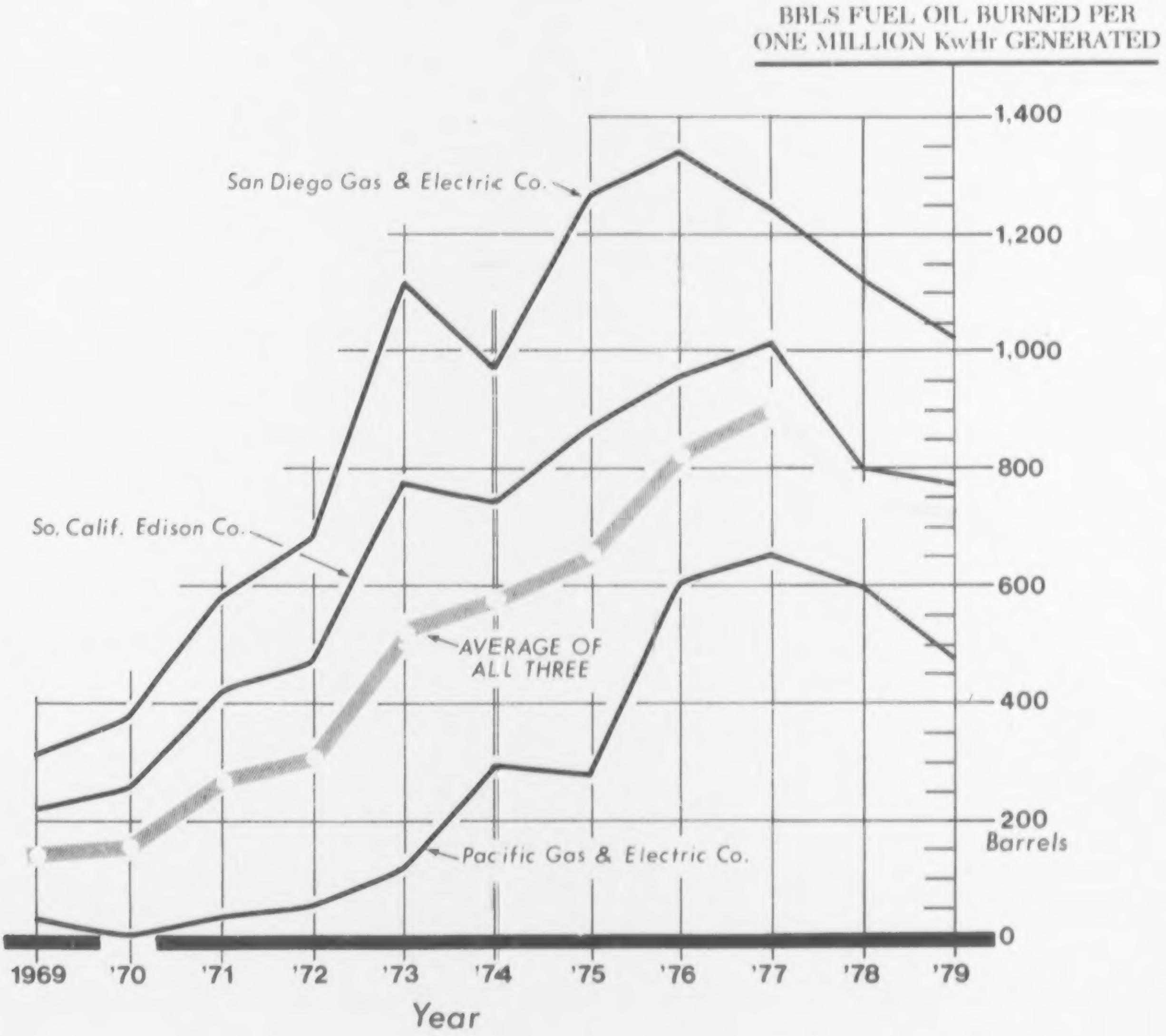
Environmental Reviews Of Proposed Projects Completed During 1979 - 80


DEL NORTE
SISKIYOU
MODOC
HUMBOLDT
SHASTA
LASSEN
TRINITY
TEHAMA
PLUMAS
MENDOCINO
GLENN
BUTTE
SIERRA
LAKE
YUBA
COLUSA
SUTTER
NEVADA
PLACER
YOLO
SONOMA
EL DORADO
NAPA
ALPINE
SACRAMENTO
SOLANO
AMADOR
MONO
CALAVERAS
TUOLUMNE
MARIN
CONTRA COSTA
SAN JOAQUIN
SAN FRANCISCO
STANISLAUS
ALAMEDA
SAN MATEO
MARIPOSA
SANTA CLARA
MERCED
MADERA
SANTA CRUZ
SAN BENITO
FRESNO
Gregg connection
INYO
MONTEREY
KINGS
TULARE
KERN
SAN LUIS OBISPO
Ten Section
SANTA BARBARA
SAN BERNARDINO
VENTURA
LOS ANGELES
RIVERSIDE
ORANGE
SAN DIEGO
IMPERIAL
San Onofre-Mission
C A L I F O R N I A
N

LEGEND

▶▶▶▶ – Transportation
▽ – Electric Generating Plant
●●●● – Gas Transmission Line
▮▮▮▮ – Electric Transmission Line
◆ – Gas Storage Facility

Fuel Oil Portion of the Mix Needed to Generate One Million KwHr of Electricity



TRANSPORTATION DIVISION

Public transportation has long been subject to regulation for the protection of the rights and the safety and general welfare of the public.

The legal basis for the regulation of transportation consists of common law, federal and state constitutions, and federal and state statutes. The primary purpose of regulation is to protect the public from monopolistic and discriminatory practices of carriers.

Basic elements of regulation are common to all regulated transportation. These include requirements that rates and services must be just, reasonable, and free of unlawful discrimination, preference or prejudice.

At present, transportation companies which fall under commission jurisdiction include railroads, passenger buses, motor carriers of freight, vessels transporting passengers or freight, and pipeline corporations. In addition, the commission regulates public warehousemen and wharfingers. The commission has regulatory responsibilities over these transportation companies and related businesses with respect to rates, services, and licensing.

Regulatory responsibilities are discharged through presentations in public proceedings before this commission, federal regulatory bodies and the courts, and through administrative action.

Licensing

The use of the public highways for transportation of persons or property for compensation is a business affecting the public interest. Any person or corporation engaged in the transportation of persons or property for compensation are for-hire carriers subject to the commission's jurisdiction. Two types of authority are granted by the PUC to perform these services—certificates and permits.

Common carriers are required to obtain from this commission certificates of public convenience and necessity before engaging in any intrastate operation. Every applicant for a certificate must be fit, willing, and able to conform to the requirements, rules and regulations of the commission. A certificate may be issued upon a showing that public convenience and necessity require the proposed service. Common carriers are obligated to serve the public without discrimination in charges and services.

Highway permit carriers and charter-party carriers of passengers are required to obtain permits of authority before operating over the public highways. Every applicant for a permit must establish financial responsibility and some applicants must establish ability. A permit may be issued upon a showing that the proposed operation will be consistent with the public interest. Several types of permits are issued by the commission. A carrier may provide only the service for which his permit is issued, and only within the territories authorized.

Types of highway permit carriers regulated by the commission include highway contract carriers, petroleum contract carriers, cement contract carriers, dump truck carriers, livestock carriers, agricultural carriers, household good carriers, and heavy specialized carriers.

Insurance

Insurance is required by law to protect the public. Evidence of insurance or surety bond must be on file with the commission for vehicles being operated. Failure to keep insurance in force result in suspension or revocation of the carrier's operating authority.

Rates

Common carriers of persons or property are required to file tariffs of rates and fares with the commission. Tariffs generally contain a description of the commodities transported or passenger services offered, the liability and obligations accepted by the carrier, and the charges covering transportation and accessorial services. All published rates, fares and charges for services must be reasonable. The commission may award reparations when it finds that discriminatory or unreasonable charges have been assessed. Common carriers may not increase their rates or fares without first obtaining commission approval.

The commission may establish maximum or minimum or maximum and minimum rates to be charged by highway permit carriers for the transportation of property. The commission does not regulate the rates of charter-party carriers of passengers.

Pursuant to the commission's reregulation program, the commission's minimum rate tariffs covering transportation of general commodities by highway permit carriers were cancelled April 30, 1980, and were replaced by transition tariffs which will not be adjusted during the transition period, expected to be a year or two. The transition tariffs will facilitate the transition from minimum rates to carrier-filed rates by serving as a threshold for rate justification. Highway contract carriers must file contracts with the commission. Any contract below the transition tariff requires a statement of justification.

Minimum rate tariffs for transportation of used household goods, agricultural products, livestock, cement, commodities in dump trucks, automobiles, petroleum products in tank trucks, commodities in vacuum-type and pump-type tank vehicles, and trailer coaches and campers remained in effect.

Highway permit carriers still subject to the commission's minimum rate tariffs are required to observe these tariffs and may assess a lesser rate than the established minimum rate only if approved by the commission. These carriers may assess rates above the minimum level. Such carriers must subscribe to the minimum rate tariffs which govern the commodities authorized by their permits.

Increases in transportation rates generally require a public hearing at which all concerned parties may be heard. The commission may decide certain rate matters without hearing when no public hearing is deemed necessary. The commission also may order an investigation on its own motion at any time that consideration of the rates would appear to be in the public interest.

Services

Considerable staff effort is expended to prohibit illegal transportation service by carriers who have not complied with the statutes or commission orders.

Through staff investigations the services of carriers are analyzed to determine and insure compliance. These investigations involve a detailed examination of all records and equipment, and when necessary a review of actual operations.

Formal petitions must be filed with the commission requesting changes in the level of service of all transportation companies. Special studies by staff are then made in connection with these proposed changes. The studies test the economic justification or reasonableness of the proposed changes.

Commission control and supervision of financing practices of carriers are deemed essential because of the effect of such practices on capital costs and the availability of capital funds, both important elements in providing adequate service at reasonable costs to the public.

Safety

Safety of the public, passengers and employees of railroads is a major concern of the commission. The safety program supervised by the commission is divided into two components: railroad safety and grade crossing safety.

In the railroad safety component, the staff pursues a continuing program of general surveys of all main and side tracks on which common carrier railroads operate to ascertain compliance with the commission's general orders.

These surveys include taking exact measurement of objects, materials, installations and walkways adjacent to tracks owned and maintained by private industries, as well as connecting and supporting trackage owned and maintained by the railroad. Where conditions at variance with provisions of the commission orders are noted, the staff makes immediate contact with the owners or responsible parties to secure correction.

In the grade crossing component, the commission promotes or orders the installation of automatic protection devices and grade separations at dangerous railroad-highway crossings. Inspections are made of crossings to determine accident potential and whether cities or counties and the railroads should be required to install automatic devices. In addition, complaints from the public regarding unsafe conditions at grade crossings are investigated by the staff. Investigations are also conducted of accidents at railroad crossings and for the authorization of new crossings and alterations of existing crossings.

Financing

Transportation regulation activities conducted by the commission are financed by both the State General Fund and the Transportation Rate Fund. The General Fund finances the activities relating to bus and railroad operations, while the Rate Fund finances the activities relating to highway carriers of property.

Transportation Rate Fund revenues are derived from a fee based on operating revenues of highway carriers and other freight transportation companies. The fee is adjusted from time to time to meet requirements. It is currently set at .225 of 1 percent (1978–79 fiscal year). Additional rate fund revenue is produced by a $11.00 quarterly filing fee paid by all highway carriers when filing their quarterly reports on gross operating revenue. Other revenues are derived from a miscellany of penalties, application fees for permits and certificates, registration fees, and from the sale of documents.

The staff of the Transportation Division, consisting of professional, technical and clerical personnel is organized into six branches. These are:

Freight Economics

The Freight Economics Branch studies traffic flow, rates, costs and economics, including results of operations, for the transportation of freight and the storage of property in rate adjustment proceedings. Analysis of physical characteristics and traffic patterns of federal and state highways, city streets, and county and U.S. Forest Service roads in California is undertaken by the branch in order to establish constructive mileage for distances to be used to determine motor carrier freight rates.

The branch also participates in interstate proceedings before federal regulatory agencies or the courts in connection with freight rate matters.

It prepares traffic flow information to be used by the commission, the commission staff and interested parties in developing reasonable rates for the transportation of property by for-hire highway carriers.

It also gathers cost performance data from for-hire highway carriers of property regulated by the commission and analyzes it in report form.

The reports are used in public hearings before the commission by the staff, the public, carriers, shippers and their association, and are also made available to other State and Federal agencies.

Tariff and License

The Tariff and License Branch issues highway carrier permits and recommends approval or denial of formal applications for highway common carrier certificates. The branch also administers the PUC's new reregulation program involving the filing of tariffs and contracts, including rate reduction and rate increase filings. It makes recommendations for authority to deviate from minimum rates and on rate adjustments filed under Shortened Procedures Tariff Docket. It also undertakes the administrative action relative to suspension, reinstatements or revocation of operative rights for non-compliance with statutory insurance, bonding, fee, tax, tariff filing and administrative requirements. The Tariff and License Branch processes quarterly reports of gross operating revenue which are used to collect Transportation Rate Fund Fees and the Highway Carriers' Uniform Business License Tax.

The branch also compiles commission tariff and the registration of interstate motor carriers operating in California. Information concerning licensing requirements and the interpretation and application of transportation and warehouse rates is provided to the general public by the branch staff.

Compliance and Enforcement

The Compliance and Enforcement Branch conducts comprehensive investigations to determine whether the services performed and the rates assessed by highway carriers and related business are in compliance with the Public Utilities Code, tariff requirements and commission general orders. When violations are disclosed the staff uses one of several informal compliance procedures, or prepares a report and develops evidence to place the action before the commission or in the courts. The branch also investigates complaints regarding passenger transportation matters.

These activities are performed by personnel in the commission's 19 district offices located throughout the state. These offices also receive and transmit for processing to the Consumer Affairs Branch inquiries and complaints about utility matters.

Passenger Operations

The Passenger Operations Branch administers the regulation of passengers by bus, train, vessels and commercial air operators. The branch processes applications for charter party permits and for passenger common carrier certificates. Tariffs, timetables, insurance and service requirements for passenger carriers are monitored by the branch. Numerous studies are conducted for use in evaluating fare levels route certification and environmental impact of proposed passenger service. Consumer complaints regarding passenger service are dealt with by the branch.

The branch also participates in interstate proceedings before federal regulatory agencies or the courts involving passenger transportation.

Railroad Operations and Safety

The Railroad Operations and Safety Branch administers general orders relative to grade crossings and safety of railroad operations and facilities. Engineering studies of railroad-highway grade crossings are conducted in order to evaluate the need for grade separations. Formal applications involving the reduction of railroad station, agency, siding or spur track service are also studied.

Passenger Operations

Bus Service Development

The commission staff's bus service development activities have included consultations with existing and prospective new passenger carriers to investigate the development of new bus services and improvement of existing bus services. The staff has worked with other public agencies at the federal, state, regional, and local levels that have interests in passenger transportation from funding, operational, and promotional perspectives. The commission staff directly assists carriers with route design, schedule design, coordination of services estimating revenues and expenses, and in preparing their proposals for filing to obtain PUC authorization.

There has also been a considerable increase in staff consultancy and liaison services provided to other public agencies needing assistance in planning and designing new passenger transportation services, negotiating with private operators, coordinating between new and existing passenger services, and obtaining technical information and guidance concerning the regulation of transportation services operated by private-sector entities.

Intercity Bus Services

California's bus industry is a highly developed system when compared with those of many other states. Nearly every significant population center and hundreds of rural points receive bus service with particularly frequent service along California's major transportation corridors. The chief intercity carrier is Greyhound Lines, Inc. There are several other operators also providing intercity bus services, including Trailways, Orange Belt Lines, Antelope Valley Bus, Amador Stage Lines, Foster's Transportation, etc. This past year's intercity bus applications included new routes in the counties of Mendocino, Lake, Fresno, Calaveras, Sonora, Tulare, Kern, Monterey, and San Luis Obispo. Several of these passenger stage services will be assisted through tax funding, e.g.: Senate Bill 620 funds (CalTrans) and Transportation Development Act funds (Counties).

Airport Access Service

Airport ground access services have expanded noticeably this year, largely in response to the significant reduction in airline service experienced throughout California following the federal government's pre-exemption of the commission's passenger air carriage regulatory program and the subsequent deregulation of airlines. Air services have been reduced at most of California's airports, including the frequency of flights between the state's major cities, but the effect has been particularly pronounced at the smaller and medium-sized airports. The staff's bus service development efforts have therefore included work to expand the availability of ground access services to the large metropolitan airports.

"Home-to-Work" Commuter Bus Services

The commission staff received several out-of-state inquiries this year for technical assistance and information concerning California's commuter bus industry, as public interest and support of the commuter bus concept is growing in proportion to the rising price of gasoline. California has had commuter bus services since World War II or earlier, and we have today over 50 passenger stage corporations providing commuter-oriented bus services. Many of these are smaller enterprises, operating less than five buses. The commuter bus is, in actuality, a small business opportunity for individuals who might otherwise be employees of major industries and not likely to operate an enterprise of their own. The largest passenger stage corporation providing home-to-work services is Commuter Bus Lines, which operates 60 buses daily in the Los Angeles and Sacramento regions. Each busload removes about 25 or 30 cars from the roads, with the attendant fuel conservation environmental advantages.

In order to help facilitate the expansion of these useful passenger services, the PUC has adopted a new, expedited procedure for their certification. The prospective operator now needs only fill in the blanks on a new form-style application, identifying himself, his proposed routes, schedules, and fares. The commission and the bus development staff have undertaken to complete the processing of these applications in 45 days or less. This new "quick and easy" application procedure for new noncontroversial commuter bus services was adopted by the commission at its conference of August 20, 1979, and the actual processing time of the first several applications granted has been less than 30 days.

Tour and Sightseeing Services

This year, the Commission certificated new services of this type in several areas ranging from Humboldt to San Diego Counties. The commission also stated its policy to allow for competition in passengers sightseeing and tour services. This approach is intended to inject a new measure of competitive forces into the industry in the expectation that the public could thereby benefit through more innovative and attractive services.

Also new this year is a cooperative undertaking with the State Office of Visitor Services, whereby the commission's bus development staff has prepared a description of the several dozen tour and sightseeing passenger stage services in California, tabulated into geographical regions, and including a brief explanation of how passengers can secure assistance from the staff if needed in connection with their patronage of any of these passenger services.

The Office of Visitor Services is including this information in a publication which they distribute to the travel industry nationwide. It is anticipated that this dissemination of information about California's transportation industry will encourage increased patronage of these attractive alternatives to the private automobile, as well as help stimulate California's economy.

Major Passenger Proceedings

Tour Operators

During the past few years, the tourist traffic in California has grown by leaps and bounds particularly involving Japanese tourists where all arrangements are made in advance in Japan for package tours to the major sightseeing attractions in California which are becoming world renown.

Japanese tourists through the Japanese-owned travel agencies in Japan buy package tours in California which includes airport transportation, hotels, and all meals plus some sightseeing. After the tourists arrive in California, they can purchase additional sightseeing tours from local representatives of the Japanese tour agencies.

The practice has been for the local tour agencies to hire existing charter-party carriers of passengers licensed by this commission to provide the sightseeing transportation for the Japanese tourists.

Several passenger stage corporations certificated by the PUC to provide sightseeing tours in the Japanese language have petitioned the commission to find that the affected Japanese tour agencies are providing illegal passenger transportation in competition with them since the Japanese tour agencies have never received proper certification from the commission. A lengthy series of hearings, in Case No. 10739, were held by the commission early this year concerning this allegation and is under submission for a decision.

Financial Assistance for Intercity Bus Transportation

In 1979, the Legislature passed Senate Bill 620—known as the Mass Transit Assistance Program. Section 71 (c) (2) (b) of the bill provided $1,000,000 in fiscal year 1979–80 for implementing a financial assistance program for intercity bus transportation in California. The California Department of Transportation, with the help of the PUC's Passenger Operations Branch, is the agency in-charge of the program. This monetary assistance will be through grants designed to revitalize, upgrade and stimulate intercity bus service.

Intercity bus companies who currently possess a Certificate of Public Convenience and Necessity from this commission are eligible applicants for funding for a project providing they are also eligible for any additional authority required from the PUC. Projects in direct conflict with the operations of another certificated carrier are not eligible for funding unless there is an agreement between the parties involved.

Some of the factors considered in evaluating and selecting projects for eligible carriers are:

1) Consideration of service
2) Community needs and desires
3) Ease of implementation
4) Costs
5) Administration and management ability

The following projects providing new service are some of those currently being considered:

1) Calaveras Transit Company—Provides new service between Jackson and Sonora.

2) Greyhound Lines, Inc.—Added Modesto to existing trips through Fresno and Tracy.

3) The Mendocino Stage—Provides new service between Fort Bragg and Westpoint.

Open Door Authority

American Buslines, Inc., a subsidiary of Trailways, Inc., one of the larger bus passenger carriers in California, had previously filed four applications for authority to pick up and discharge passengers on intrastate routes now being served exclusively by Greyhound Lines, Inc. These include Applications Nos. 57797 for service between San Francisco and the Nevada State Line over I-80, 57939 for service between Los Angeles and San Ysidro over I-5 and between Calexico and Los Angeles over SR-111 and I-10 and also 58858 to grant temporary authority for the summer of portions of above requested authority.

After public hearings were held on the above applications, the submissions were set aside and an oral argument by applicant, protestant and commission staff was held before the commission en banc. Decision No. 90800 denied Application No. 58858. Decision No. 91279 authorized routes requested in Application No. 58457. Greyhound applied for rehearing, which was denied. Greyhound has appealed this decision in the California Supreme Court, which at this writing has not been decided.

The submission in Application Nos. 57797 and 57939 was set aside and reopened for further hearings and again submitted. At this time decision has not been made in these two applications.

Greyhound Fare Increase

Greyhound Lines, Inc., by Decision No. 90740 in Application No. 58347, was authorized in August 1979 to increase its intrastate passenger and freight rates by 13 percent. This is Greyhound's first general rate increase in California since 1972 with the exception of minor increases to offset higher labor and fuel costs. It is estimated that with the new rates Greyhound's income from its California operations will increase 4.7 million dollars yearly—earning an 8.51 percent rate of return.

Other applicants who provide coordinated service on an interline basis with Greyhound were also granted the 13 percent increase. These include Las Vegas-Tonopah-Reno Stage Lines, Inc., Orange Belt Stages, Peerless Stages, Inc., Vaca Valley Bus Lines, Desert Stage Lines, and Redwood Empire Lines.

Essential Air Service

On October 24, 1978, the Airline Deregulation Act was signed into law. Subsequent to the signing, a Federal District Court prohibited the California Public Utilities Commission from regulating air carriers. This decision of the District Court is now on appeal.

One section of the Airline Deregulation Act established a program to provide essential air service to communities threatened with the loss of vital air service. The Act charged the Civil Aeronautics Board with setting minimum service levels for the eligible communities, after consultation with interested community and state agencies.

The PUC ordered a formal investigation—O.I.I. 48—to determine the essential air service levels of California communities. The staff of the Passenger Operations Branch prepared reports for 20 communities recommending appropriate service levels. Nine hearings were conducted throughout the state to develop a public record on this matter. On August 28, 1979, the Commission issued Decision No. 90757 in O.I.I. 48, which set forth its recommendations for essential air service levels in the 20 communities. These recommendations were forwarded to Caltrans for its consideration in making the state recommendation to the CAB.

New Vessel Carrier

The summer of 1980 brought a major new entry into the field of vessel transportation on San Francisco Bay with the certification of Blue and Gold Fleet as a vessel common carrier. Blue and Gold Fleet, a subsidiary of the Pier 39 operation, had hitherto only operated sightseeing trips around the Bay. Its new certificate gave it the right to run a commuter ferry service between San Francisco and Berkeley and to operate as a on-call charter carrier of passengers on San Francisco Bay.

Surface Passenger Transportation Growth

Due primarily to the fuel shortage and ever increasing cost of fuel, this year saw a significant growth in California's surface passenger transportation system including both passenger stage corporations and charter-party carriers. This growth was evidenced both by increased patronage of existing carriers and new carriers certificated during the year by this commission to provide new passenger operations.

For 1979 there were approximately 884 intrastate surface passenger carriers under commission jurisdiction, which includes 197 passenger stage corporations, 687 charter-party carriers, 18 vessel common carriers and 5 passenger railroads. As indicated in the following table the number of passenger carriers is increasing rapidly as the private sector meets the transportation needs in the State:

Year	Total PUC Surface Passenger Carriers
1961	135
1964	150
1969	155
1974	450
1977	675
1978	760
1979	884

1979–80 Fare Increases Authorized
Surface Passenger Carriers

Appl. No.	Decision No.		Estimated Annual Intrastate Revenues	
			Under Present Fares	Under Fares Authorized
58347	90740	Greyhound Lines, Inc.	51,670,175	56,418,074
58384	90340	M. McDonough (Angel Isl. Ferry)	70,427	106,349
58582	90291	Yosemite Park and Curry Co.	476,000	524,000
58663	90237	Airline Limo Services, Inc.	179,888	267,246
58727	90389	D. F. Stuart	151,747	163,747
58733	90280	W. H. Hunt	27,456	34,944
58766	90555	Metro Commuter Co.	68,300	86,100
58776	90691	Catalina Passenger Service	349,589	413,231
58790	90614	H-10 Water Taxi Co. Ltd.	617,000	825,000
58812	90726	Airport Limo Service of Sunnyvale	2,269,150	6,484,550
58815	90444	Santa Rosa Airporter, Inc.	180,787	200,000
58829	90681	Balboa Island Ferr	366,331	461,979
58846	90454	So. Calif. Commuter Bus Service	261,689	294,689
58865	90664	Commuter Bus Lines, Inc.	570,000	652,900
58913	90607	Skyview Limo Service, Inc.	165,583	193,363
58923	90572	Great American Stagelines	397,414	428,114
58938	90729	Orange Belt Stages	1,407,654	1,447,088
58963	90730	O. L. Gilbert	15,600	20,280
58964	90608	P. L. Heine	46,800	58,500
58976	90611	W. P. Hendricksen	39,934	47,904
58980	91000	C. D. Lewis	72,000	84,000
59001	90906	H. Tourist, Inc.	431,800	561,300
59011	90806	Golden State Limo, Inc.	342,986	382,038
59022	90731	Harbor Carriers, Inc.	1,468,308	1,527,302
59026	90914	Marin Airporter, Inc.	365,200	407,500
59031	91248	Yellow Cab Company of Sacramento	244,862	312,524
59035	90946	24-Hour Airport Express, Inc.	1,119,000	1,231,000
59041	91149	Greyhound Lines, Inc.	56,418,074	57,907,374
59076	90903	SFO Airporter, Inc.	4,078,141	4,504,200
59088	90952	S. A. Messnick	964,000	1,096,000
59101	91150	Gray Line Tours	8,090,684	8,309,760
59104	91220	Goodals Charter Bus Service	467,950	574,600
59121	91297	R. E. Parks	55,660	70,840
59122	91298	Vaca Valley Bus Lines	13,398	19,140
59138	91345	R. E. Trahan	48,300	55,700
59170	91001	R. R. Hassler	37,949	40,795
59173	91092	Orange Coast Sightseeing	908,596	927,549
59175	91092	Airport Service, Inc.	7,274,085	7,506,485
59186	91342	PSPA Corp. (Airport Connection)	325,861	386,861
59207	91256	Airport Transportation Company	204,155	260,155
59211	91146	R. Beauchane	105,110	135,208
59219	91153	Gray Line Tours Company	1,082,242	1,245,072
59298	91453	J. R. Foster	18,427	19,177
59304	91221	R. Beauchane	168,058	179,008
59336	91451	Ukiah Airporter	18,000	19,000
59402	91461	Airport Services, Inc.	8,092,285	9,670,354
59403	91461	Orange Coast Sightseeing Co.	875,013	1,050,016

1979–80 Decisions Granting New Common Carrier Certificates of Public Convenience and Necessity for Passenger Stage and Vessel Services

New Recreational and Sightseeing Passenger Stage Service

Appl. No.	Decision No.	Certificate Issued To	For Service Between
57095	90106	Golden Gate Sightseeing Tours	San Francisco Bay Area
57576	90887	Lounge Car Tours, Inc.	Los Angeles and Palm Springs
57836	89731	M. Mori (San Francisco Bay Tours)	San Francisco and Marin
57886	87600	Sta. Clara Val Transportation, Inc.	Santa Clara and Santa Cruz Counties
58173	90272	K. Nakagawa	Los Angeles and San Diego
58353	89968	American Camping Tours, Inc.	San Francisco International Airport and Yosemite
58359	90232	Lounge Car Tours, Inc.	Los Angeles and Orange Counties
58434	90161	Storer Transp. Service, Inc.	Stanislaus County and SF, LA
58445	90720	J. Y. Goolsby (Horizon Tours)	Santa Barbara County and Hope Ranch
58542	90599	S. A. Messnick	Rose Bowl and Los Angeles, Orange Counties
58563	90515	Sta. Clara Val Transportation, Inc.	San Francisco and Santa Cruz
58599	90600	Gray Line Tours Co.	Newport Beach, et al.
58600	90241	Gray Line Tours Co.	Port of Los Angeles
58601	90241	Gray Line Tours Co.	Cities Surrounding Los Angeles
58735	90814	Asian Tours and Travel Ltd.	Monterey County
58760	90390	B. Twoomey	Eureka and Arcata
58772	90943	Tiffany Tour and Travel Service	Cities of Los Angeles and Anaheim
59005	90907	L. L. Betran	Sonoma County
59113	91079	Gray Line Tours Co.	San Diego County

1979–80 Decisions Granting New Common Carrier Certificates of Public Convenience and Necessity for Passenger Stage and Vessel Services

New "Home-to-Work" Passenger Services

Appl. No.	Decision No.	Certificate Issued To	For Service Between
57921	89690	Mark IV Charter Lines	Brentwood and Huntington Beach
58112	89427	R. E. Trahan (Getaway Lines)	Los Angeles, Orange Counties and San Onofre
58191	89923	G. Righetti (Super Commuter Bus)	Sunnyvale and UAL Maintenance Base
58299	90662	W. H. Hunt	Orange County and Northrop Corp.
58388	90275	E. D. Stich (Challenger Coach Leasing)	Los Angeles and Ventura County
58570	90239	F. C. McClendon, Jr.	Vallejo and Concord
58819	91046	R. W. Morgan	Napa and Mare Island
58822	90727	J. T. Carson	El Cajon, La Mesa, et al
58906	90684	B. Hickey	Sausalito and Mt. Tamalpais

1979–80 Decisions Granting New Common Carrier Certificates of Public Convenience and Necessity for Passenger Stage and Vessel Services

New Airport Access Passenger Stage Services

Appl. No.	Decision No.	Certificate Issued To	For Service Between
56928	90011	Public Services Planning and Analysis	Points in Alameda County and Oakland International Airport
57765	89074	24-Hour Airport Express, Inc.	Los Angeles International Airport and Orange County
58065	89789	E. H. Eberhardt	Marysville and Sacramento Muni Airport
58082	90383	Airport Service, Inc.	Los Angeles and Los Angeles International Airport
58133	89791	Peninar Transportation Co.	San Diego Airport and Camp Pendleton
58205	90273	Evens Airport Service, Inc.	Vallejo and San Francisco International Airport
58603	909902	R. Beauchane	Chico and Sacramento International Airport
58685	90353	W. C. Howell (All Cal Tours)	Santa Rosa and Oakland International Airport
58808	90674	W. J. Pruitt	Davis and Sacramento International Airport
58813	91039	Green Flag Airport Express, Inc.	Points in Orange County and Los Angeles International Airport

New Vessel Services

Appl. No.	Decision No.	Certificate Issued To	For Service Between
57800	89471	Island Enterprises, Inc.	Los Angeles and all points on Catalina

New Dial-a-Ride Service

Appl. No.	Decision No.	Certificate Issued To	For Service Between
58379	90391	Wilde and Wilde, Inc.	Fresno-Clovis Area

Air Insurance

The commission's General Order 120-C requires all commercial air operators operating in the State of California, whether conducting scheduled or non-scheduled operations, to obtain and continue in effect adequate liability insurance so long as they offer their services for compensation.

The commercial air operators operating in the State of California for the fiscal year 1979–80 are as follows:

Fixed Base, Non-scheduled On-Call Operators, Aircraft & Helicopter Charter, Rental & Leasing Services, Air Taxi, Air Cargo, Flight Schools, Air Ambulance Service and Flying Clubs	2,320
Air Carriers Operating Scheduled Flight Service Certified by CAB	46
Air Freight Only	9
	2,375

Railroad Operations and Safety

CALIFORNIA'S RAILROADS

In 1979–80 the rail network in California consisted of five Class I railroads:

1. The Atchison, Topeka & Santa Fe
2. Burlington Northern
3. Southern Pacific Railroad
4. Union Pacific Railroad
5. The Western Pacific Railroad

Nineteen Class II & III railroads and eight switching and terminal companies.

In terms of tons, motor carriers are the dominant means of transporting manufactured products, carrying 41 percent, while rail, in terms of ton-miles, is the dominant means, carrying 50 percent.

Rail Share of Transportation Involving Key Classes of Manufactured Products

	% of tons	% of ton-miles
1. Food and kindred products	36.7	72.7
2. Lumber and wood products	36.2	78.8
3. Transportation equipment	39.7	63.9
4. Pulp, paper and allied products	33.5	76.7

The average rail haul on freight originating in California is 968 miles for manufactured products.

Mergers

Union Pacific/Western Pacific/Missouri Pacific

A merger agreement has been reached between Union Pacific Railroad and Missouri Pacific Railroad. Union Pacific also plans to acquire the stock of the Western Pacific Railroad, which will result in a system with direct service to St. Louis and Chicago, most West Coast ports and a half-dozen Gulf of Mexico ports. It is expected that a merger application will be filed with the Interstate Commerce Commission under the 4-R Act in mid-September, 1980.

The three roads will produce the nation's fourth largest rail system, with trackage amounting to approximately 22,900 miles. Of these, the largest contributor of track would be Missouri Pacific followed by Union Pacific and then Western Pacific with the least.

Two of the three roads operate in California, with Union Pacific serving the corridor from Los Angeles east through Las Vegas, Salt Lake City, Omaha and Kansas City, and Western Pacific serving the San Francisco corridor east through Reno and Salt Lake City. The Missouri Pacific system, which does not operate in California, meets with Union Pacific in Omaha and Kansas City which will make it possible to serve directly

Of Rail Tonnage Originating in the State, the Primary Commodity Classes are:

1. Food and Kindred products	8,334,600
2. Lumber and wood products, except furniture	4,048,300
3. Non-metalic minerals, except fuel	3,963,800
4. Chemicals and allied products	3,597,200
5. Clay, concrete, glass and stone products	3,131,400
6. Farm products	3,025,700

Of Rail Tonnage Terminating in the State, the Primary Commodity Classes are:

1. Food and kindred products	5,680,300
2. Chemicals and allied products	5,183,500
3. Lumber and wood products, except furniture	5,086,000
4. Non-metallic minerals, except fuel	4,659,900
5. Farm products	3,891,400
6. Pulp, paper and allied products	3,790,400

Taxes paid by railroads in California rank first in the nation ($41,192,000) and are equal to the cost of educating 29,385 public school children in the state each year.

those points to the east and south—Chicago, St. Louis, Memphis, New Orleans, Houston, Galveston, San Antonio, Dallas-Fort Worth, and El Paso.

The impact on California, because of this proposed merger, cannot be ascertained at the present time. The combined assets of these lines is $7.6 billion. Upon the filing of a merger application by the railroads, the Interstate Commerce Commission will have 31 months in which to render a decision.

Southern Pacific/ Santa Fe

In May 1980 a merger was proposed between the Southern Pacific Transportation Company and The Atchison, Topeka and Santa Fe Railway Company. The new company would be known as Santa Fe Pacific Industries and would become the second largest railroad company in the nation, the proposed Burlington Northern/Frisco merger potentially resulting in the largest.

Southern Pacific trackage is extensive in California and extends north to Portland; northeast to Ogden; and east to Tucumcari, St. Louis, and New Orleans while the Santa Fe trackage runs in California east through Arizona, New Mexico, Texas, Colorado, Kansas, Oklahoma, Missouri, and ending in Chicago, Illinois. The trackage of these two companies will represent approximately 74 percent of the total trackage in California.

Their combined trackage will amount to 25,000 miles while their assets will total $8.9 billion with revenues of $5.2 billion. The proposed new company, Santa Fe Pacific Industries, will be engaged in rail and truck transportation, natural resources, forest products, real estate, financial services, construction, communications, and pipelines.

Railroad Accidents

During fiscal year 1979–80 common carrier railroads operating in California experienced a marked increase in serious train accidents which resulted in death and/or injury and extensive damage to railroad and private property. Following are summaries of four of these accidents.

The staff of the Operations & Safety Section has taken an active role, along with other regulatory agencies, in the investigation of these accidents to determine the cause and make necessary recommendations to the carriers which would enhance the safety of the existing method of operations and reduce the possibility of recurring accidents.

Fortunately, there have been no major derailments involving hazardous materials. However, many trains do carry hazardous materials; therefore, the probability of such incidents is very high.

Due to the potential for such catastrophies, it has become necessary for the staff to increase its activities in the area of hazardous materials shipments by common carrier railroads and make several recommendations regarding the availability of train consist sheets to local fire and police departments as well as recommending a 24 hour "hot line" to all chief dispatchers in the event of a derailment involving hazardous materials.

Additionally, the staff has coordinated emergency handling of hazardous materials classes between local fire departments and the Southern Pacific Transportation Company's haz-mat class to insure that firefighters are properly instructed in techniques of handling hazardous materials in rail cars.

Thousand Palms, CA— July 24, 1979

At approximately 4:00 a.m., July 24, 1979 a westbound SP train collided with the rear-end of a standing westbound SP train in the siding at Thousand Palms, near Indio, CA. Three locomotives were destroyed, four freight cars and one caboose were destroyed, 10 freight cars were damaged along with 280 feet of main line and 280 feet of siding. Damage in dollars amounted to $1,426,100.

The engineer of the striking train sustained fatal burns in the resulting fire. Three other crew members sustained injuries.

Lodi, CA— February 11, 1980

At approximately 1:20 a.m., February 11, 1980 an eastbound Southern Pacific freight train collided with a westbound Southern Pacific freight train, derailing four locomotive units and 30 freight cars in the downtown area of Lodi, CA. All major road crossings at grade were blocked for over one hour.

Four locomotives were derailed and one destroyed and 30 freight cars were derailed. Track and equipment damage amounted to $266,000, not including cleanup or damage to private property adjacent to railroad.

Hayward, CA— April 9, 1980

At approximately 6:55 p.m., April 9, 1980 two westbound Western Pacific freight trains operating as one train, derailed in Hayward, CA on the Industrial Avenue Overpass. The last car and caboose on the lead train and three locomotives and six cars of the following helper train left the rails and came to rest on the edge of the overpass and the pavement below. This derailment resulted in the deaths of the conductor and rear brakeman as the second unit of the three unit helper engine crushed their caboose. The engineer and front brakeman of the helper train were also injured.

Damages	3 locomotives destroyed
	7 freight cars derailed (2 destroyed).
	1 caboose destroyed
Damage in dollars	$1,123,314

The staff of the Operations & Safety Section, the National Transportation Safety Board, the Federal Railroad Administration and the Western Pacific Railroad Company were still investigating this derailment at the end of the fiscal year to determine the cause and any contributing factors.

Pisgah, CA—May 11, 1980

At 11:43 p.m., May 11, 1980 a westbound Santa Fe freight train collided with a standing westbound Santa Fe freight train at the railroad's station of Pisgah, 40 miles east of Barstow, CA.

3 locomotives derailed (1 destroyed)
29 cars derailed (27 destroyed)
1 caboose destroyed
Total damage in dollars–$2,702,749.69

The collision resulted in the death of one employee and injury to three others.

Grade Crossing Accidents

Reports of all accidents occurring at railroad-highway crossings are filed with the commission and become a significant factor in our efforts to reduce hazards at the crossings. A summary of accidents for the calendar year 1979 is shown below.

Classification of Accidents

Type of Accident	Accidents	Casualties	
	Total	Killed	Injured
Vehicle—Train Accidents			
Vehicle—Train at Public Crossings	552	39	155
Vehicle—Train at Private Crossings	52	3	12
Vehicle—Train Between Crossings	1	1	1
Subtotal	605	43	168
Other Accidents			
Miscellaneous	8	1	–
Pedestrian Accidents	13	10	5
Subtotal	21	11	5
Total	626	54	173

"Vehicle" includes automobile, bus, truck, or motorcycle.
"Between Crossings" accidents take place where railroad trains operate longitudinally in paved streets.
"Miscellaneous" includes first, all vehicles which had no contact with a train, but struck track maintenance equipment; second, those accidents where the train struck a bicycle, farm tractor or similar conveyance.

Railroad Accident Experience

Railroad accident experience records are maintained by the staff on a calendar year basis from information derived from copies of federal accident reports received by the commission from the carrier as provided for in Part 255, Title 49 of the Code of Federal Regulations. The calendar year 1979 saw the fifth complete year that federal guidelines for reporting accidents have been in use. These guidelines provide separate reporting for two types of accidents, namely:

1. Rail equipment incidents which show that derailments, collisions, and miscellaneous equipment failures in 1979 resulted in 282 incidents showing a combined monetary loss for equipment, track, and signal damage of $8,180,000.* This represents a decrease of 26 percent in number of incidents and a 32 percent decrease in monetary loss. The Federal Railroad Administration increased the reporting threshold to $2,900 effective January 1, 1979 to reflect the increased costs of replacing equipment.

2. Illness/Injury Incidents show a total of 3,413 reportable injuries in all categories which reflect an 11 percent increase over 1978. However, the ratio of illness/injury incidents to manhours and locomotive miles showed a decrease from the 1978 figures which indicates that rail safety improved in 1979.

In 1978 the 33 common carriers operating in the state reported a total of 3,680 rail Accident/Injury Incidents. The individual reports were reviewed and analyzed at the carrier's General and Division office, resulting in 273 detailed investigations by the staff. In many instances by radio monitoring of the frequencies used by the various carriers, the staff was able to make investigations of an accident within hours of its occurrence. This provided first-hand knowledge of the particular incident and, coupled with the carrier reports, enabled the staff to make highly relevant recommendations for accident prevention, many of which were adopted by various carriers.

Operation Lifesaver

Operation Lifesaver is a nationwide grassroots campaign to increase public awareness of crossing hazards through education, observance and enforcement of driving safety laws and engineering improvements.

The program, in California, started conceptually in 1978 and was actually implemented during 1979–80. Concentrating on the county areas with the highest accident and casualty rates, the program's education and enforcement aspects include speakers, films, public service announcements and printed materials for mass distribution.

The commission, during 1979–80, provided much of the statistical background used in the campaign and participated in several safety congresses, demonstrations, and speaker workshops. The engineering phase of the public awareness program centers primarily on improvements to grade crossing warning systems and grade crossing closures through separations, abandonment and street closures. During 1979–80, the PUC, through its engineering investigations and participation in several statewide local assistance programs, participated in the installation of 136 automatic warning systems and the closure of over 200 grade crossings.

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* Figures are estimates and do not include lading, cost of clearing wreck, train delays, rerouting, and other costs not directly related to railroad property.

State Participation In the Enforcement of Federal Regulations

Under the Federal Railroad Safety Act of 1970, state agencies may be certified by the administrator of the Federal Railroad Administration to carry out investigative and surveillance activities regarding any federal safety rules, regulations, orders and standards established under the act and receive up to one-half of the cost involved.

In 1979–80 California entered into an agreement with the federal government to augment the Railroad Operations and Safety Section with federally certified track and equipment inspectors.

At the end of the fiscal year, one track inspector trainee has entered into the program and interviews are being held to complete the new staff which will consist of three track inspectors, two equipment inspectors and one stenographer.

Classes concerning federal regulations will be attended by all trainees in the program at the Transportation Safety Institute in Oklahoma City, Oklahoma prior to certification.

Reconstruction of Storm Damaged SD&AET

The former San Diego and Arizona Eastern Railway between San Diego and El Centro, was purchased by the Metropolitan Transit Development Board (MTDB) of San Diego. The freight operation will be handled by Kyle Railways under the name of San Diego and Arizona Eastern Railway Transportation Company. The passenger operations from San Diego to San Ysidro will be handled by MTDB.

Reconstruction of the railroad damage caused by hurricane "Kathleen" in 1976, commenced December 10, 1979 and will be completed, Plaster City to Jacumba, by August 15, 1980. However, the freight portion of the railroad cannot become operational until the Mexican government rebuilds the bridge over the Tijuana River, six-hundred feet of which was destroyed early in 1980.

The portion of railroad from San Ysidro to San Diego is being operated over by freight traffic while the trackage is being rebuilt for Light Rail Passenger Service.

Periodically, during construction, the staff of the Operations and Safety Section has monitored the progress to assure that the completed work is in compliance with the PUC's General Orders relating to railroad safety.

Safety Programs—Railroad Operations

The table below summarizes the staff functions in dealing with problems and in obtaining compliance with several state statutes and commission General Orders applying to the health and safety of common carrier railroads, operating and non-operating employees, passengers and the public.

	1975–76	1976–77	1977–78	1978–79	1979–80
1. Accident Reports analyzed and tabulated (calendar year)........	2945	3509	3326	3680	3235
2. Accidents investigated in detail (calendar year)	114	360	212	273	187
3. Impaired clearance condition processed	1264	1424	1254	1704	1470
4. Walkways and unsafe operating conditions processed..........	1667	2191	2057	2560	3047
5. Equipment Safety Inspection ..	—*	—*	—*	—*	—*
6. Informal Complaints filed	465	317	268	222	180

* Due to lack of personnel, the staff has been unable to continue this activity since 1971.

Informal Complaints

Fiscal year 1979–80 saw a decrease in the number of informal complaints handled by the commission's Operations and Safety Section personnel. There were 180 informal complaints filed during Fiscal Year 1979–80 compared to 222 filed the preceding year. These complaints were filed by individuals, local governmental agencies, and all classes of railroad organizations seeking assistance or relief from the practices of rail carriers where, in their judgment, such activities were considered detrimental to their health, safety, comfort and convenience.

Contributing factors for the decrease in complaints was the continued combining of numerous caboose complaints and incorporation of old and new complaints covering the same areas with regard to clearance and walkway items. This method allows the staff to review previous handling of similar complaints, thus, eliminating the time consuming duplication of files. It further provides the staff with past documentation to present to railroad representatives to confirm problem areas which, in the past, have not received appropriate attention to resolve matters on a permanent basis.

Noise Nuisances

There was an increase during the year of informal complaints regarding excessive noise resulting from switching operations or train movements in urban areas. Most of the complaints involved disturbance of the residents' sleep during night hours. The staff was able, in most instances, to have changes made in carrier operations and resolve the complaints.

Simplified Procedure

When all parties are in agreement, an application for a crossing improvement may be filed under a simplified procedure and approved without formal application or hearing under the terms of the commission's General Order 88. Forty-five applications were filed during the fiscal year, processed by the staff and approval granted.

Crossing Protection Fund

Within the State of California there are approximately 9,000 grade crossings. While each year a number of these crossings are eliminated by separation structures, closure or abandonment, it is not economically feasible to eliminate the large majority of crossings. Reliance upon automatic devices to warn motorists of approaching trains has become increasingly necessary in order to provide greater safety for the growing highway traffic. Through the years, these devices have become more sophisticated and, consequently, more costly.

To assist cities and counties in paying their share of the cost of installing warning devices at railroad-highway grade crossings, the Legislature, in 1953, established the Crossing Protection Fund. Ordinarily, the cost to improve warning devices at existing crossings is shared on a 50-50 basis between the railroad and the public agency involved if federal funds are not available.

At new crossings, the cost is usually borne by the party desiring the crossing. The fund, administered by the commission, permits assistance to a city or county or city and county for a maximum of one-half of its share of the cost of the crossing warning devices, being limited by the practice of the Public Utilities Commission, to one-fourth of the total cost of the automatic devices.

This fund has been augmented by annual budget appropriations since its inception, the most recent being $3,000,000 for the 1980–81 fiscal year. A total of $12,700,000 has been appropriated since 1953.

Analysis of the data underlying the following summary shows that for $12.7 million in State Funds expended over a period of 26 years, grade crossing automatic warning devices, with a total value of approximately $60 million, will have been installed for the benefit of the public, railroads and their employees.

Automatic Grade Crossing Protection Maintenance Fund

The Grade Crossing Protection Maintenance Fund was established by the Legislature in 1965 to pay the cities' and counties' share of the cost maintaining automatic protective devices installed after October 1, 1965. Section 1202.2 of the Public Utilities Code requires the commission to allocate the maintenance cost of crossing protection between the railroads and the public agencies in the same proportion as the cost of construction.

This fund is augmented in each annual budget of the California Transportation Commission for allocation to the Public Utilities Commission to pay the cities' or counties' share of the cost of maintaining automatic protective devices, the most recent appropriation being $1,425,000 for the fiscal year 1979–80.

A total of $8,337,020 has been authorized for payment as of June 30, 1980. For the fiscal year 1979–80, 965 payments, amounting to $447,402, were provided for the benefit of 140 cities and 35 counties. Set forth in the tabulation below are the number of grade crossings and payments made for maintaining automatic grade crossing protection for the fiscal years 1967–1968 through 1979–80.

Total Allocations from Crossing Protection Fund as of June 30, 1980 (since) 1953

	Requests Approved	Funds Allocated
Counties Total	1,203	$5,151,032
Cities Total	1,677	8,230,593
Total	2,880	$13,381,625

Summary of Allocations from the Crossing Protection Fund as of June 30, 1980

Action on Request	Requests	Total Estimated Cost	Total Allocations Requested	Allocations to Cities-Counties
Approved	2,880	$59,718,985	$13,931,018	$13,381,625
Denied	39	410,479	98,694	–
Pending	–	–	–	–
Total Requests Filed	2,919	$60,129,464	$14,029,712	$13,381,625
Returned to Fund (Final Cost Less Than Allocations)				$1,382,976
Net Amount Allocated to Cities and Counties				$11,998,649
Total Amount Appropriated				$12,700,000
Balance in Fund Unallocated				$701,351
Pending Allocation Requests				$–

Clearances and Walkways

The PUC's General Order 26D, among other things, prescribes the minimum clearance on common carrier railroads for side and overhead structures adjacent to tracks and the minimum distances between center lines of parallel tracks.

General Order 118 prescribes the type and extent of walkways considered adequate adjacent to tracks according to their designated usage. Through the provisions of this General Order, the staff also maintains a continuous program to increase safety of operations by the removal and control of weeds and other vegetation adjacent to tracks.

Grade Crossing Protection Maintenance Payments 1965–80

Fiscal Year	Number of Crossing Payments	Paid	Average Payment Per Crossing
1967–68 *	74	$16,336	$221
1968–69	205	65,643	320
1969–70	392	144,372	368
1970–71	1,863	702,614	377
1971–72	1,844	692,296	375
1972–73	1,484	605,053	408
1973–74	2,421	997,160	412
1974–75	1,309	551,763	422
1975–76	2,639	1,122,916	425
1976–77	2,450	1,021,839	417
1977–78	2,353	1,003,479	426
1978–79	2,202	966,147	439
1979–80	965	447,402	464
	20,201	8,337,020	413

* Initial Payments authorized by Resolution CPM-1 dated April 16, 1968.

New Plants and Construction

During the year the staff inspected new railroad trackage being constructed to serve several large industrial areas to detect inadvertent violations of the PUC's safety orders. Developers, architects and engineers often seek the advice of the staff in the early planning stages to avoid faulty installations. However, new facilities often are found with deviations from requirements. Under such conditions corrective action is costly and may delay rail operations over affected trackage until corrections are made.

Inspections taking exact measurements of many objects, materials, installations and walkways adjacent to tracks owned and maintained by private industries as well as connecting and supporting trackage owned and maintained by the railroads is a major function of the Operations & Safety Section to insure compliance with our General Orders.

Within California, the common carrier railroads operate over approximately 6,800 miles of main and branch lines and over thousands of additional miles of yard and industry owned tracks. All of this trackage is subject to the clearance and walkway requirements of General Order 26D and 118.

Efficiency Tests of Train and Engine Crews

Under provisions of General Order 108, the carriers must file with the commission copies of their railroad operating rules. These rules require strict compliance by engine and train crews with the specific instructions concerning action to be taken in response to automatic block signal as headlights, torpedoes, flares, and the many other conditions of operation in connection with the movement of trains and other railway equipment.

Testing teams of railroad officials, equipped with the necessary devices to impose certain conditions, are sent into the field regularly to insure crew compliance with operating rules.

During the fiscal year 1979–80 the staff of the Operations & Safety Section has had numerous meetings with carrier representatives concerning rule compliance.

Several staff recommendations have been implemented by the carriers' operating departments concerning rules changes and/or operating procedures.

In addition to the above activities, the staff has initiated its own program of efficiency testing of both operating personnel and supervisory personnel to insure that all railroad employees have a clear understanding of the rules and requirements regarding train operations.

General Order 114 and 126

General Order 114 established minimum safety, health and comfort standards for all cabooses in which railroad personnel are required to ride in the performance of their duties. General Order 126 sets minimum requirements for the contents of first aid kits and requires such kits to be carried on passenger cars, cabooses and locomotives.

The number of informal complaints concerning caboose conditions remains the same as reported the previous fiscal year. The number of defects and deficiencies reported to the carrier has decreased. This trend is attributed to the decrease in the number of random inspections conducted by the staff due to personnel reductions.

Power and equipment pooling agreements between the western railroads and several large carriers in the east has resulted in the occasional operation of a foreign line caboose in California which does not comply with General Orders 114 and 126. Staff activities have included efforts to bring these violations of the commission's orders to a formal hearing seeking penalty action against the carrier involved.

General Order 135

The Public Utilities Commission's General Order 135 prescribes maximum time limits railroad trains may occupy public grade crossings. Due to limited staff, most activity with regard to these matters results from complaints registered with the commission by the general public who are blocked for excessive periods of time by standing trains at public grade crossings. The complaints are investigated by the staff to determine the cause of the excessive blocking and to decide if the blocking was justified under the provisions of this General Order. The complainant is notified of the staff's findings and may pursue prosecution of the railroad by filing a complaint with the appropriate district attorney as prescribed by the General Order.

Priority List of Grade Separation Projects

The Legislature, in 1957, established a fund to which $5 million dollars was appropriated annually through 1970 for the purpose of assisting cities and counties in financing grade crossing elimination projects on city streets and county roads. It further provided that this fund was to be administered by the State Highway Commission, with allocations being awarded based on a priority list to be established annually by the Public Utilities Commission.

In 1971 the Legislature amended Section 190 of the Streets and Highways Code to make available $10 million annually for allocations and expenditures with $5 million to be reverted to the fund if not expended and commencing with the 1972–73 fiscal year the sum of $5 million additional for each of two years was set aside for grade separation projects. The Streets and Highways Code, which governs the Grade Separation Fund, was again changed by the Legislature in 1973. This time it increased the fund to a minimum of $15 million annually and added a provision which permits projects on State highways which are not freeways to be funded.

In addition to the regular funds made available to the Grade Separation Fund by Section 190 of the Streets and Highways Code, the Legislature, through Senate Bill 620, as part of a major mass transit program, appropriated $10 million for grade separation projects on railroad lines with four or more daily passenger trains. The California Transportation Commission, after deliberation, awarded allocations to the City of La Mirada to augment funds previously provided for the Alondra Boulevard project; the City of Commerce to augment funds previously provided for the Eastern Avenue grade separation; the City of Sunnyvale for the construction of a grade separation on Wolfe Road; and the City of Irvine for a separation at Alton Parkway.

For the Fiscal Year 1979–80, $25,000,000 was appropriated under Section 190 of the Streets and Highways Code for Grade Separation projects and $10 million by Senate Bill 620.

By July 1 of each year, the Public Utilities Commission is required to establish the priority list of those railroad grade crossings, the elimination of grade crossings by removal or relocation of streets or railroad tracks and the alteration or reconstruction of existing grade separations most urgently in need of separation or alteration.

This list is determined by the commission after holding public hearings and is based on criteria established by the PUC. Included on this list are projects on city streets, county roads and State highways which are not freeways as defined in Section 257 of the Streets and Highways Code.

The California Transportation Commission (successor to the California Highway Commission) administers this fund and has, since 1957, allocated $196 million to assist public agencies in the construction of grade separation projects. This amount, along with the funds provided by the public agencies and railroads, has resulted in a total expenditure of approximately $324 million for grade separations throughout the state to improve public safety and convenience. As a result of this program, 197 separation projects have been completed or are under construction.

Set forth below is the 1980–81 Priority List which consists of 67 projects and was established by PUC Decision No. 91887, dated June 3, 1980:

Priority Number	Crossing Name	Agency	Railroad
1	Peck Road-Ramona Road	El Monte	SPT Co.
2	Poplar Avenue	San Mateo	SPT Co.
3	Niles-Pleasanton Consolidation	Alameda County	WPRR
4	Herndon Avenue	Fresno County	AT&SF
5	Livermore-Altamont Consolidation	Alameda County	SPT Co.
6	Tilton Avenue	San Mateo	SPT Co.
7	Grand Avenue	So. San Francisco	SPT Co.
8	Oceanside Combined Lowering	Oceanside	SPT Co.
9	Ashlan Avenue	Fresno	SPT Co.
10	138-San Bernardino	Caltrans	AT&SF
11	Union-24th	Bakersfield	SPT Co.
12	Monroe Street	Indio	SPT Co.
13	Wolfe Road	Sunnyvale	SPT Co.
14	Scherrer Avenue	Dunsmuir	SPT Co.
15	58-San Bernardino	Caltrans	AT&SF
16	Bernal Road	San Jose	SPT Co.
17	Fogg Street	Colton	AT&SF
18	Santa Fe-Washington	Los Angeles	AT&SF

Priority Number	Crossing Name	Agency	Railroad
19	San Gabriel Lowering	San Gabriel	SPT Co.
20	Hollister Avenue	Santa Barbara County	SPT Co.
21	Gilbert Street	Fullerton	AT&SF
22	Greenwood	Los Angeles County	AT&SF
23	Holly Street	San Carlos	SPT Co.
24	Mary Avenue	Sunnyvale	SPT Co.
25	North Main Street	Los Angeles	UPRR
26	166-Santa Barbara	Caltrans	SPT Co.
27	Irvine Lowering	Irvine	AT&SF
28	Inglewood Avenue	Redondo Beach	AT&SF
29	180-Fresno	Caltrans	AT&SF
30	237-Santa Clara	Caltrans	SPT Co.
31	Branham Lane	San Jose	SPT Co.
32	79-Riverside	Caltrans	SPT Co.
33	Imperial Highway	Norwalk	SPT Co.
34	U Street	Sacramento County	SPT Co.
35	Boronda Road	Salinas	SPT Co.
36	Hollywood Way	Los Angeles County	SPT Co.
37	Dayton Road	Chico	SPT Co.
38	Cota-Railroad	Corona	AT&SF
39	Hammer Lane	Stockton	WPRR
40	70-Yuba	Caltrans	SPT Co.
41	Orcutt Road	San Luis Obispo	SPT Co.
42	Railroad Street	Corona	AT&SF
43	Bandini Boulevard	Los Angeles County	UPRR
44	Monte Diablo	San Mateo	SPT Co.
45	Morello Avenue	Contra Costa County	AT&SF
46	68-Monterey	Caltrans	SPT Co.
47	84-Yolo	Caltrans	SPT Co.
48	Valley Boulevard	Los Angeles	SPT Co.
49	Tennyson Road	Hayward	SPT Co.
50	Santa Inez Avenue	San Mateo	SPT Co.
51	162-Butte	Caltrans	WPRR
52	238-Alameda	Caltrans	WPRR
53	Alton Parkway	Irvine	AT&SF
54	Grand Avenue	Los Angeles County	SPT Co.
55	Harder Road	Hayward	SPT Co.
56	Castro Street	Richmond	RBRY
57	Florence Avenue	Los Angeles County	SPT Co.
58	41-Fresno	Caltrans	SPT Co.
59	A Street	Hayward	WPRR
60	Cota Street	Corona	AT&SF
61	W. Winton Avenue	Hayward	SPT Co.
62	Saticoy Street	Los Angeles	SPT Co.
63	Somersville Road	Contra Costa County	SPT Co.
64	Rohnert Park Expressway	Rohnert Park	NWPRR
65	Nordhoff Street	Los Angeles	SPT Co.
66	Douglas Street	Los Angeles	SPT Co.
67	Humane Way	Pomona	UPRR

Protection Installed at Grade Crossings

The efforts of the PUC staff—combined with the continued cooperation of the cities, counties, and State Department of Transportation—has resulted in 16 new railroad-highway grade crossings being equipped with automatic warning devices. Improvements to the warning devices were accomplished at 136 existing grade crossings during the calendar year 1979 for a total of 152 crossings at which new or improved automatic protection was installed, 120 being provided with automatic gates.

The following table indicates how these improvements were distributed throughout the State in 1979:

Automatic Protection Installed at Grade Crossings—1979

County	New Crossings With Automatic Protection	Initial and Improved Automatic Protection	Automatic Gates Included in Columns I & II
Alameda	–	6	3
Butte	–	2	1
Colusa	–	1	1
Contra Costa	–	1	–
El Dorado	–	1	1
Fresno	–	17	14
Glenn	–	1	1
Kern	–	2	2
Lassen	–	1	1
Los Angeles	4	22	17
Madera	–	1	1
Merced	–	2	2
Monterey	1	3	4
Napa	–	2	2
Orange	2	4	6
Placer	–	5	5
Riverside	1	3	3
Sacramento	1	2	3
San Bernardino	6	2	3
San Diego	1	1	1
San Joaquin	–	18	18
San Luis Obispo	–	1	1
San Mateo	–	1	1
Santa Barbara	–	2	–
Santa Clara	–	7	4
Siskiyou	–	2	2
Sonoma	–	3	3
Stanislaus	–	11	8
Sutter	–	1	1
Tehama	–	1	1
Tulare	–	8	8
Ventura	–	1	1
Yolo	–	1	1
Total	16	136	120

Freight Economics Branch

The Freight Economics Branch is primarily responsible for providing the commission with professional advice on all economic, mathematical and statistical matters related to the transportation of freight and the storage of property to enable the commission to actively and responsively achieve its regulatory mandate and policies in the public interest of the people of the State of California. This includes:

- developing and implementing a practical regulatory system in which carriers establish their rates, and initiate any subsequent changes in the rate level;
- assisting the commission in evaluating the presence, nature and significance of economic issues and problems as they exist in the regulated industry, and as they arise in the process of regulation; and
- conducting studies into various statistical and economic aspects of the regulated industries to provide the commission with information which will enable it to take responsive action and play a progressive role in implementing its regulatory mandate by:
- handling all economic planning studies and data gathering pertaining to freight operations and rates,
- achieving an orderly transition from the current minimum rate program to carrier-made ratemaking, and
- producing cost data analyses and cost witnesses and experts to participate in matters handled by other Transportation Division branches as needed.

Reregulation Proceedings

In December, 1974, the Commission on California State Government Organization and Economy (Little Hoover Commission) issued a report in which various recommendations were made for changes in motor carrier regulation. Among the changes recommended were the (1) consolidation of general freight carriers into two classes: common carriers and contract carriers, and (2) elimination of minimum rates: all classes should either be subject to tariffs or operate as contract carriers.

The first recommendation was implemented by Senate Bill 860 (SB 860), enacted as Chapter 840, Statutes 1977, which eliminated the radial highway common carrier classification and gave such carriers the opportunity to become highway common carriers or highway contract carriers, or both. Conversion of radial highway common carrier permits has been completed, with the new highway common carrier certificates and highway contract carrier permits becoming effective on April 30, 1980.

The second recommendation, to eliminate minimum rates, has been the subject of numerous days of hearings and the offering of testimony by many parties, including shippers, carriers, business organizations, labor unions, and the staff.

On May 22, 1979, the commission issued Decision 90354 to reregulate the tank truck industry by the introduction of a plan whereby minimum rates would be eliminated and replaced by carrier filed rates.

The California Trucking Association filed suit in the United States District Court to enjoin the commission from proceeding with these changes in motor carrier regulation. The court permanently enjoined the commission from giving force and effect to Decision 90354 by an order entered January 16, 1980. The commission reopened the proceeding for further hearings by Decisions 91063 and 91284. Hearings were concluded and the matter was submitted for decision upon the filing of closing briefs. On June 3, 1980, the commission issued Decision 91861 which would cancel the commission's minimum rate tariffs covering tank truck transportation on July 31, 1980, and make corresponding transition tariffs effective on the same date.

The commission's reregulatory plan for the transportation of general commodities was adopted by Decisions 90663 of August 14, 1979, and 90816 dated September 12, 1979. Minimum rate regulation of general commodity transportation was abolished and a system of carrier-filed rates was established in its place. The commission's minimum rate tariffs for general commodities were cancelled on April 30, 1980, and corresponding transition tariffs were made effective on the same date. Thus, the new SB 860 highway common carrier certificates and highway contract carrier permits and reregulation of general commodities rates all became effective on April 30, 1980.

Under the reregulation program new tariff filings will be received from about 11,000 highway common carriers and written contract filings will be received from about 12,000 contract carriers. At the close of the fiscal year, the Tariff Section received and processed about 2,000 new tariffs and more than 6,000 written contracts.

The objective of the commission's program of reregulation is to shift primary rate setting responsibility from the commission to the trucking industry. Carriers, as businessmen, negotiate with shippers and submit their rates for commission approval. Cost justified rate differentials and rate innovations such as peakload pricing and directional rates are encouraged. Carriers compete on a price basis as well as on the basis of service. Increased price competition can be expected to produce increased operational as well as financial efficiency. Equipment utilization should be maximized, thereby reducing empty miles, excessive use of the highways, and unnecessary fuel consumption. The commission will continue to exercise jurisdiction to protect the interests of shippers, carriers, and the general public.

Agricultural Commodities

By its order dated April 12, 1977, the commission issued its Order Setting Hearing Nos. 67, 959, 116, and 159 in Case Nos. 5433, 5432, 5438 and 7875, respectively, for the purpose of exploring whether the commission should establish a regulatory program whereby carriers would establish rates and initiate changes in rate levels.

In response to the order of the commission, the commission staff is currently conducting a study in connection with Order Setting Hearing No. 116 in Case No. 5438, for the purpose indicated above, in connection with Minimum Rate Tariff 8-A, which names minimum rates and rules for the transportation of fresh fruits, fresh vegetables and empty containers over the public highways between points in the State of California by highway contract carriers and agricultural carriers.

The staff study will address issues concerning the transportation of agricultural commodities and will gather information and comments from various individuals, organizations and governmental agencies which have a mutual interest in California's agricultural industry, and who would be materially affected by any change in the current regulatory scheme involving commission established minimum rates for agricultural products.

Minimum Rate Tariff Increases 1979–1980 Fiscal Year

The Rate and Cost Studies Section participated in numerous formal actions involving rate regulation of intrastate trucking. Cost and rate offset exhibits were prepared to reflect increased labor, equipment and running costs. The table below quantifies the minimum rate tariff increases flowing from proceedings in which the sections submitted costs and wage offset evidence during the fiscal year.

Minimum Rate Tariff Increases

Transportation	Percent Increase	Dollar Increase (in thousands)
General Commodities		
State wide MRT 2		
Truckload	18.3	124,529
Less than Truckload	15.5	43,082
Drayage MRT 1-B (East Bay)	15.0	562
Drayage MRT 9-B (San Diego)	15.0	541
Drayage MRT 19 (San Francisco)	13.5	422
Livestock MRT 3-A	15.0	2,274
Household Goods MRT 4-B	5.5	7,902
Bulk Petroleum MRT 6-B	11.0	13,584
Dump Truck MRT 7-A	22.1	49,190
MRT 17-A	22.4	12,567
MRT 20	23.4	6,751
Fresh Fruits & Vegetables MRT 8-A	16.3	6,708
Cement MRT 10	15.2	6,540
Uncrated Furniture MRT 11-A	3.5	498
Automobile Truckaway MRT 12-A	15.5	4,283
Vacuum Tank Service MRT 13	11.0	2,419
Bulk Agricultural Commodities MRT 14-A	17.2	10,014
Vehicle Unit Rates MRT 15	14.0	13,800
Mobile Homes MRT 18	14.5	1,670

C. 5432, Petition 1036 OSH 1043

Petition 1036, filed by the California Trucking Association (CTA) prior to the beginning of the fiscal year, sought simplification of the truckload incentive provisions in Section 3-B of Minimum Rate Tariff (MRT) 2. The commission later broadened the proceeding to consider simplification of all of the truckload items contained in MRT 2 through the issuance of Order Setting Hearing 1043.

At hearings, tariff simplification proposals were presented by CTA, the Highway Carriers' Association, the California Manufacturers' Association and the commission staff.

The matter was submitted for decision in January, 1980, but discontinued subsequent to the reregulation of general freight (and the cancellation of MRT 2) in the latter part of the fiscal year.

C. 5432, OSH 1019, et al. C. 5330, OSH 110, et al.

These proceedings evolved from a 1977 staff White Paper proposal to exempt property in continuous movement from or to points beyond California having prior or subsequent carrier via noncommon carrier water vessel.

On September 12, 1979, after lengthy public hearings in C. 5432, OSH 1019, et al., the commission issued its decision to exempt such property from the rates in Minimum Rate Tariffs (MRT's) 1-B, 2, 9-B and 19.

Concurrent with its decision in OSH 1019, et al., the commission issued OSH 110, et al., in C. 5330 for the purpose of determining whether an ex-vessel exemption similar to that ordered in MRT's 1-B, 2, 9-A and 19 should be published in the other commission tariffs.

The staff is currently preparing evidence relating to the propriety of incorporating ex-vessel rate exemptions in these tariffs and will present this evidence at the OSH 110 hearings scheduled early in the next fiscal year.

Prevailing Wage Study

On July 3, 1979, the commission instituted Order Instituting Investigation (O.I.I. 530 to establish a methodology for determining prevailing wages for use in the establishment of carrier-filed rates. Eleven days of public hearings were held. Evidence was presented by the commission staff, several carrier organizations and the Teamster's Union. The proceeding was submitted subject to the filing of briefs on November 2, 1979.

By Decision 91265 of January 15, 1980, in the above proceeding, the commission limited the application of the prevailing wage concept to general commodity and tank truck transportation; limited prevailing wage determination to only two employee classifications, i.e., drivers and platform workers; adopted a modified version of the Davis-Bacon Act definition of prevailing wage rate; adopted the Teamster recommended use of three geographic zones rather than the multiple zone suggested by staff; distinguished transportation services on the basis of type of equipment operated rather than the type of commodity transported; adopted complaint and investigation procedures to be employed when carrier-filed rates are challenged; ordered publication of prevailing wage data commencing July 1, 1980; and adopted Teamster wages in the interim.

In addition, the commission determined that owner-operator data should not be employed in establishing prevailing wage rates for the purposes of reregulation program and that messenger carriers should be exempted from the operation of the program.

Dump Truck Carriers

Early in 1980, the staff initiated an extensive study concerning the possible reregulation of dumptruck transportation. While considering the present minimum rate system to be a viable one, the staff began to explore the feasibility of alternatives to the present system of rates, rules and regulations embodied in minimum Rate Tariffs 7-A, 17-A and 20.

Field work began in June, 1980, and was expected to continue into the fall. Scheduled interviews began with numerous overlying carriers, owner operators, shippers and contractors. It is anticipated that the matter will culminate in hearings in the fall or winter of the 1980–81 fiscal year.

Used Household Goods

Beginning in November, 1979, an in depth field study was conducted by a staff member in connection with the commission's reregulation program concerning transportation of used household goods (C. 5330, OSH 100).

The interviews conducted pursuant to this investigation included household goods carriers, large corporate shippers and individual shippers. The purpose of the investigation is to explore whether the commission should adopt a regulatory program whereby carriers establish rates and initiate changes in rate levels.

The results of the filed investigation and staff recommendation will be the subject of a commission hearing in early fall, 1980.

Fuel Cost Adjustments

As a result of escalating fuel costs experienced by the trucking industry beginning the early part of 1979, the staff prepared, at the request of California Trucking Association, eight separate phases of fuel cost adjustments for each of the 18 minimum rate tariffs (C. 5432, Petition 1042, et al.). Fuel costs began to stabilize soon after April, 1980.

Data Gathering Functions

The Economic Research Section of the Freight Economics Branch develops new or improved methods for determining costs, utilizing financial, traffic and other economic data in ratemaking and identifying new areas of worthwhile data research. The section is responsible for maintaining a data base from which current information can be extracted with minimum delay. The section also prepares data reports, regularly or upon request, for the benefit of the commission, its staff, interested parties to commission proceedings, other governmental agencies and the general public.

The Economic Research Section consists of a Traffic Research Unit and a Cost Research Unit. The Traffic Research Unit prepares traffic flow information used by the commission, the staff and interested parties in developing reasonable rates for the transportation of property by for-hire highway carriers.

The traffic flow information is derived from a freight bill sample submitted by highway carriers. During the past year, there were approximately 60,000 freight bills received, analyzed, rated and coded.

Traffic flow and other highway carrier information was furnished to state agencies, insurance companies, city and county governments, commission staff, trucking associations and the general public. The Traffic Research Unit also produced a Revenue Distribution Report summarizing revenue information furnished by highway carriers. The report showed the revenue allocation by minimum rate tariff and the type of rate used. Also issued was a report showing the different types of authorities held by highway carriers.

During the past year, the Traffic and Cost Units produced an Annual Statistical Report for the year 1978. The report provided analyses for for-hire revenue distribution. Statistical revenue and carrier activities indexes for a ten-year period is graphically illustrated throughout the report.

The Cost Research Unit gathers cost performance data from for-hire highway carriers of property regulated by the commission and is responsible for analyzing and summarizing this data in report form. The reports are used in public hearings before the commission by the staff, the public, carriers, shippers and their association, and are also made available to other state and federal agencies.

Equipment

In 1979, approximately 18,000 carriers were sent questionnaires requesting information of their for-hire equipment. This information is being incorporated with data contained in the California Department of Motor Vehicles magnetic tape files and various equipment cost reports will be prepared on the basis of the accumulated information.

Labor Costs

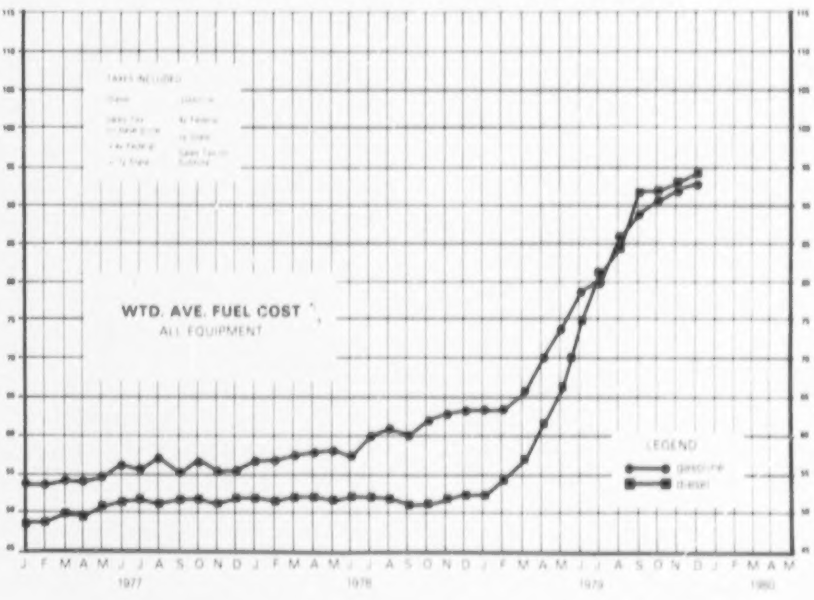
In 1979, 1,859 carriers were requested to furnish labor cost information. This information will be used to prepare various cost factor reports.

Fuel and Oil

Twelve monthly reports and one annual report were prepared summarizing the cost and performance of fuel and oil used in equipment operated by regulated carriers. The reports, setting forth the information by commodity category, service type and tariff are based on data supplied by 6,892 carriers sampled during the year 1979.

The average cost of gasoline increased 7 percent between January, 1978, and January, 1979, and diesel fuel increased 2 percent during the same period. Between January, 1979, and June, 1980, gasoline increased 83 percent and diesel fuel 97 percent. These sharp increases in fuel cost resulted in offsetting increases in the rates charged by for-hire carriers regulated by the commisssion.

In 1979, computer developed costs for the transportation of general commodities in the Los Angeles Metropolitan Area, the East Bay Drayage Area and the San Francisco Drayage Area and a cost-rate runout for the Los Angeles and Santa Maria Dump Truck network were prepared by the Cost Unit. A graph showing weighted average fuel costs for all equipment follows:



Rail Rate Increase for Sugar Beets and Wood Chips

The applications for Ex Parte 357-A rate increases (generally 7 percent) filed by California railroads were granted by Interim Decision 90134 on March 27, 1979, including interim increases of 7 percent on sugar beets and wood chips in lieu of the protested 15 percent increase requested.

There were nine days of hearings on the sugar beet issue and four days of hearings on the wood chip issue between June and October, 1979. The commission by Decision 91502 of April 2, 1980, granted increases of 15 percent for these commodities, and ordered Southern Pacific Transportation Company to undertake and complete within a three year period program of rehabilitation or replacement of its sugar beet fleet or some other appropriate program to assure that it will have sufficient equipment to meet the present and future needs of sugar beet shippers.

Flexible Rail Increases

The Ex Parte 357-A increase applications were combined with Order Instituting Investigation (O.I.I.) 41, an investigation to determine whether the commission should establish a flexible rate program for changes in rail freight rates. Two days of hearings were held to consider this program. A decision had not been issued by the end of the fiscal year.

Energy Efficiency Plan

Pursuant to legislation which became effective in January, 1980, the Special Projects Section began to develop an energy efficiency plan for highway carriers. The plan, which is to be adopted by the end of 1980, is being prepared in cooperation with the staff of the California Energy Commission. Beginning in 1981, the commission will consider the energy impact of every decision involving highway carriers. In addition, the staff will work closely with highway carriers in a voluntary program to achieve the goal of increased highway carrier fuel efficiency.

Tariffs of Common Carriers and Related Public Utilities

Under Sections 486 and 489 of the Public Utilities Code, common carriers and transportation utilities file with the Commission tariffs showing the rates and charges for all services offered. During the past year 55,389 amended tariff pages were filed by carriers or transportation utilities. Analysis disclosed 4,793 discrepancies resulting in the rejection of 445 tariff pages. Many of the tariff pages rejected would have resulted in discrimination or unauthorized increases in rates prohibited by law. The following are the number and types of carriers or transportation utilities that are required to file tariffs with the Commission and the number of tariffs on file for each.

Tariffs Filed by Common Carriers of Freight and by Warehousemen

	Number of Carriers	Number of Tariffs on File
Railroads	34	204
Highway Common Carriers	10,707	
Petroleum Irregular Route Carrier	107	5637*
Cement Carriers	176	
Express Corporations	17	117
Freight Forwarders	43	46
Airlines	39	42
Vessels	9	10
Pipelines	5	20
Carloading Companies	1	1
Warehousemen	231	167
Wharfingers	1	1
Total Tariffs		6245

* Includes 3,366 Affidavits of subhauling filed by Section 1063.5 highway common carriers.

Public Information and Assistance

The Tariff Section answered 12,800 inquiries from the shipping public and from carriers concerning freight rates, and 15,000 inquiries regarding the implementation of SB 860 and the commission's reregulation programs.

EX PARTE MATTERS

Special Tariff Dockets

General Order No. 109 provides for the economical and prompt processing of tariff changes which are narrow in scope, not adverse to the interest of other parties, not of general interest, and noncontroversial. During the past fiscal year, a total of 183 special tariff docket applications were processed, 140 of which were granted as requested, 30 STD's were partially granted or contained restrictions, one was denied, and 12 were dismissed.

Two requests for reparations under Section 734 of the Public Utilities Code were received and processed as special Tariff Dockets involving the waiving and refunding of collection of $4,805.

Shortened Procedure Tariff Dockets

The Shortened Procedure Tariff Docket allows ex parte processing of noncontroversial rate increase applications which would not increase applicants' intrastate gross revenue by as much as one percent. This procedure permits expeditious and economical handling of such matters and avoids lengthy and costly formal proceedings. During the year 50 applications were processed and granted.

Special Deviation Dockets

The Special Deviation Docket reduces the burden on applicants by simplifying the type of filing in connection with applications of permitted carriers for renewal or continuation of authority to assess rates less than or different from the established minimum rates. This procedure requires that only an original and two copies instead of an original and twelve copies be filed and enables the commission to dispose of these applications economically and expeditiously by resolution in lieu of formal order. During the year 155 applications were processed of which 139 were granted and 16 denied. Reregulation procedures will reduce the number of applications handled under this method as it applies only to deviations from the minimum rate tariffs which have not been cancelled out in the new reregulation program.

Preparation of Orders

Three hundred and twenty *ex parte* orders were prepared during the year for commission consideration. These orders involved adjustments in the minimum rates of highway carriers and the rates of individual common carriers and other utilities; authority to assess rates which are less than or different from the commission's established minimum rates; and, revocation or modification of operative rights of common carriers and other utilities. Those concerned benefited from savings in cost and time in the *ex parte* disposition of such applications of which 269 were granted, 32 reassigned to a hearing officer, 8 were denied and 11 were dismissed.

New, Revised Tariff Pages

During the year, 1188 new or revised tariff pages were prepared for inclusion into commission orders which provided for adjustments in the various commission minimum rate or transition rate tariffs. These adjustments included: (1) upward revisions in the minimum rates to offset increased operating costs experienced by the carriers; (2) lower experimental rates designed to attract new or additional traffic; (3) lower volume incentive rates to reflect improved operating efficiencies of the carriers; and (4) the establishment of the transition tariffs in lieu of Minimum Rate Tariffs 1-B, 2, 9-B, 11-A, 15 and 19.

Preparation of Transition Tariffs

In addition to its normal line of duties the section prepared the transition tariffs that were to be issued in lieu of Minimum Rate Tariffs 1-B, 2, 9-B, 11-A, 15 and 19 by April 1, 1980. The job was done even though the issuance of these tariffs was delayed by action of Assembly Bill 1232. In response to the Commission's Decision No. 91861, signed June 3, 1980, the necessary work to convert Minimum Rate Tariffs 6-B and 13 into Transition Tariff 6-B and 13 was proceeding on time.

Reregulation matters were proceeding as smoothly as possible and up to June 30, 1980, there were a total of 12 rate reduction filings made by the carriers.

Compliance and Enforcement Branch

The staff of the Compliance and Enforcement Branch during the fiscal year continued intensive efforts in connection with the reregulation program initiated by the passage of SB 860 in 1977 and subsequent commission decision.

Personnel in all 19 District Offices were actively engaged in assisting carriers in making their radial conversion filings and answering questions with regard to reregulation.

Compliance and Enforcement Branch staff members provided critical support for the Tariff & License Branch, License Section, in conjunction with the commission's program of conversion of all existing Radial Highway Common Carrier permits to Highway Contract permits and/or Highway Common Carrier certification. Carrier applications were carefully screened in the District Offices prior to submission to the License Section and thousands of telephone inquiries were handled.

District personnel were also engaged in assisting prospective carriers in completing the financial statement now required with all new permit applications.

Senate Bill 860 became fully effective on April 30, 1980 and several commission minimum rate tariffs were cancelled on that date and replaced by Transition Tariffs Nos. 1-B, 1, 9-B, 11-A, 15 and 19. In order to ensure uniformity in answering questions that would arise due to the new regulatory scheme, and to provide guidelines, a public inquiry team on S.B. 860 and the reregulation program was established. The team was composed of members of the Transportation Division staff from the Compliance & Enforcement Branch, Freight Economics Branch and Tariff & License Branch.

A massive educational effort has been launched by field personnel in order to make all carriers aware of their responsibilities under the new regulations, as contained in Decisions No. 89575 and 90663 concerning contract and tariff filing requirements, and Decision No. 91247, which sets forth a changed set of rules regarding subhauling.

The Compliance Section has been working closely with the Tariff Section of the Tariff & License Branch in connection with the filing of carrier contracts, tariffs, tariff adoption notices and subhaul affidavits. All of these documents are eventually filed in the Tariff Section. In the case of carrier-filed contracts, however, initial processing is handled by the Compliance Section staff. Contracts received which are deficient in the information required by the Specimen Contract contained in Decision No. 89575 are immediately returned to the carrier with a form letter attached advising of the deficiency. Contracts containing rates below Transition Tariff (or MRT) level require a statement of justification for such lower rates, and are treated as "Rate Reduction" filings. Carriers are required to forward them directly to the Tariff Section for processing. In cases where lower rates are proposed but no statement of justification is presented, the contract is returned to the carrier by the Compliance Section with a notation indicating the need for such a statement. Contracts found to be satisfactory are forwarded to the Tariff Section for filing.

Carriers who opted to convert to SB 860 certificated authority are required to either file their own tariffs, participate in another common carrier tariff, adopt a PUC tariff or file an affidavit of subhauling. An updated list is compiled monthly by the Tariff Section indicating those certificated carriers who have not taken any of these steps. The Data Bank prepares a printout of those carriers, by county, which is then divided among the appropriate District Offices for carrier contact by local Compliance and Enforcement Branch personnel.

Decision No. 91247 requires that all prime carriers engaging subhaulers file a schedule of subhauler rates and deductions with the commission. Compliance Section headquarters processes these schedules as received from the carriers and they are then filed in the District Office where the prime carrier is domiciled. Staff members have been monitoring response closely and are involved in follow-up contacts with carriers who have not yet complied with this requirement.

In addition to ensuring compliance with commission rules and regulations applying to motor carriers of freight, the Compliance and Enforcement Branch works closely with the Passenger Operations Branch in the enforcement of Code Sections relative to motor passenger carriers. Field investigations are conducted and misdemeanor complaints are filed in the courts against passenger carriers found operating without commission authority.

The Compliance and Enforcement Branch also provided support to the Freight Economics Branch during the Fiscal Year 1979–1980, particularly in conducting field interviews with shippers of used household goods.

The branch continued, during the fiscal year, its more traditional compliance and enforcement activities involving commission rules and regulations pertaining to motor carriers engaged in the for-hire transportation of property. The attached statistics reflect the results of these activities.

Summary of Road Checks
(Intrastate)

Road Checks	17
Carriers Reviewed	988
Violations Disclosed	179
Man-Days at Check Sites	31

District Office Activities

	Amount
Telephone Inquiries	130,319
In Person Inquiries	35,495
Applications for New Operative Authority Processed	4,348
Amendments of Existing Operating Authority Processed	237
Remittances Processed (fees, fines, penalties, etc.)	$1,262,715

INFORMAL DISCIPLINARY ACTIONS

Type of Action	Number	Amount	Fines Assessed	Jail Sentences: No. of Days
Carrier Conferences				
Certificated	4			
Radial & Contract	263			
Household Goods	34			
Dump	48			
Other	16			
Total	365			
District Attorney Citations				
Certificated	0			
Radial & Contract	14			
Household Goods	0			
Dump	5			
Other	1			
Total	20			
Misdemeanor Convictions				
Certificated	0		$0	0
Radial & Contract	8		9,060	5
Household Goods	4		2,276	0
Dump	5		1,455	0
Other	5		1,635	0
Total	22		$14,426	5
Undercharge Letters	79	$15,756		
Overcharge Letters	12	2,759		
Citation Forfeitures	75	–	$35,650	–
Undercharge Citations	42	–	215,111	–

SUMMARY OF INVESTIGATIONS COMPLETED

	Number
OPERATING AUTHORITY	
Highway Carriers of Property	1,400
Charter Party Passenger Carriers	213
Warehouses	0
RATE AND TARIFF	
Highway Carriers of Property	2,391
Freight Forwarders and Express Corps	2
Industrial Locations	620
Surety Bond Investigations	449
Total Investigations	5,075

Summary of Informal Complaints

(Handled by C & E Branch: does not include complaints handled by Consumer Affairs Branch, Management Services Division.)

	Number	Amount
Delinquent Subhaul Monies Secured from Prime Carriers	127	$388,587
Household Goods Carrier Complaints	188	
Property Complaints other than Household Goods	197	
Household Goods Overcharge Settlements	121	18,233
Other Property Overcharge Settlements	126	21,627
Household Goods Loss & Damage Settlements	67	11,523
Other Property Loss & Damage Settlements	159	83,192
Household Goods Carrier Fines	90	18,940

APPENDIX A

Utilities and Carriers Under Commission Jurisdiction

Electric Utilities	13
Gas Utilities	15
Telephone	26
Telegraph	1
Mobile Radiotelephone Utilities	48
Water Utilities	354
Sewers	18
Pipelines	5
Team Heat Utilities	2
Specialized Carriers-Microwave	1
Commercial Air Operators	2,517
Charter-Party Carriers, Certificated	174
Charter-Party Carriers, Permits	702
Passenger Stages	181
Highway Common Carriers, Certificated	431
Petroleum Irregular Route Carriers, Certificated	107
Cement Carriers, Certificated	176
Car Loading Companies	1
Freight Forwarders	43
Express Corporations	17
Railroads	34
Warehouses	229
Inland Passenger Water Carriers, Certificated	16
Inland Water-Carriers, For-Hire	350
Vessels, Freight, Certificated	9
Wharfingers	1

Permits in force, June 30, 1980 (Radial highway common carriers, highway contract carriers, petroleum contract carriers, cement contract carriers, household goods carriers, dump truck carriers, seasonal highway contract carriers, livestock carriers, heavy specialized carriers, agricultural carriers, and seasonal agricultural and livestock carriers.) .. 38,867
These permits are held by 23,195 for-hire truck operators.

Appendix B

Regulation of Public Utilities and Transportation Companies in the State of California

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A Handbook

Public Utilities Commission
State of California

INTRODUCTION

This handbook gives a brief description of what the California Public Utilities Commission (PUC) is and does.

The public utilities and transportation companies regulated by this Commission are private, investor-owned companies. The State of California does not own or manage them, nor does any city or governmental district.

These companies are owned by investors who expect a return on their investments. A small company can be owned by a single family or individual. In the larger companies, the investors are shareholders who own stock in the company. Either way, it is the owners who decide who will manage their utility and—as in any private company—the managers are responsible to the owners for the way the company runs.

How then, does the PUC fit into this picture? Basically it comes down to two things: *Rates* and *Service.* The PUC sets the rates and regulates the service of these companies.

In this regulation, terminology is used that may be unfamiliar like "rate base", "normalization" and "minimum rate tariff." In this handbook, we italicize each of these terms when it is first used and then explain it in the text or in the glossary at the end. The glossary also defines many regulatory terms which do not appear in the text.

TABLE OF CONTENTS

Page

INTRODUCTION 114
BACKGROUND 117
HOW THE COMMISSION IS ORGANIZED 117
WHAT THE COMMISSION DOES 118
HOW THE COMMISSION SETS RATES 118
  General Rate Cases 118
  Energy Cost Offset Proceedings 118
  Advice Letters 119
HOW THE COMMISSION GRANTS AUTHORITY 119
  Certificates of Public Convenience and Necessity 119
  Security Issues 119
  Tariff Changes 119
HOW THE COMMISSION HANDLES COMPLAINTS 119
  Informal Complaints 120
  Formal Complaints 120
HOW THE COMMISSION INITIATES FORMAL ACTION ON ITS OWN 120
  Orders Instituting Investigation (OII) 120
  Orders Instituting Rulemaking (OIR) 120
HOW THE DECISION MAKING PROCESS WORKS 121
  Public Hearings 121
  The Decision 121
  Rehearing and Review 122
SPECIAL NOTE 122
GLOSSARY 123

BACKGROUND

California has a long tradition of regulation to protect its citizens. In 1853, before there was a mile of railroad in the state, a law was passed making it illegal to charge more than 20 cents a mile for hauling passengers. In 1873 the Legislature created the State Board of Transportation Commissioners giving it limited jurisdiction over railroads. In 1911, the voters established the present Commission by constitutional amendment. Thus California has one of the few utility commissions firmly based in the State Constitution rather than legislative enactment. At first it was called the Railroad Commission and had broad powers to regulate railroads and private utilities. In 1946, its name was changed to the Public Utilities Commission. The Commission's present duties and powers have been put into effect by the Legislature, starting with the 1912 passage of the Public Utilities Act.

The basic philosophy of utility regulation was well-expressed by Franklin D. Roosevelt when, as Governor of New York, he said:

> "The Public Service Commission is not a mere judicial body to act solely as umpire between complaining consumer or complaining investor on the one hand, and the great public utility system on the other hand. . . . The Public Service Commission has a definitely delegated authority and duty to act as the agent of the public themselves; it is not a mere arbitrator as between the people and the public utilities, but was created for the purpose of seeing that the public utilities do two things first, give adequate service; second, charge reasonable rates; in performing this function, it must act as agent of the public, upon its own initiative as well as upon petition, to investigate the acts of public utilities relative to service and rates, and to enforce adequate service and reasonable rates.
>
> "The regulating commission, my friends, must be a Tribune of the people putting its engineering, its accounting and its legal resources into the breach for the purpose of getting the facts and doing justice to both the consumers and investors in public utilities."

(*Public Papers and Addresses of Franklin D. Roosevelt*, Volume 1, page 731.)

HOW THE COMMISSION IS ORGANIZED

The California Public Utilities Commission (PUC) consists of five commissioners appointed by the Governor, with consent of the State Senate, for terms of six years. Their appointments are made at two-year intervals so that a majority of the commissioners will at all times be experienced in carrying out the work of the Commission.

One of the five is elected annually by the other commissioners to serve as president of the Commission. The president acts as the chairman at the decision-making *conferences* and other formal sessions.

The Commission appoints an executive director responsible for the day-to-day operation of the Commission, directing the staff, and ensuring that matters before the Commission are processed efficiently and expeditiously. However, the five commissioners make all final decisions.

The staff is composed of an executive office and eight operating divisions, each headed by a director. The Commission's staff consists of about 925 employees, including attorneys, accountants, computer experts, engineers, transportation experts, economists, rate and safety experts, researchers, other professionals and support personnel.

By law, the PUC headquarters is in San Francisco. The Commission also has an office in Los Angeles and smaller offices for trucking regulation in Sacramento, Oakland, Redding, Santa Rosa, Eureka, Stockton, San Jose, Fresno, Bakersfield, Santa Barbara, Downey, El Monte, Panorama City, San Bernardino, Santa Ana, San Diego and El Centro. There is also an Office of Governmental Affairs in Sacramento.

The PUC regulates more than 1500 privately owned utilities and 20,000 transportation companies. These include gas, electric, water, steam, sewer, telephone and telegraph companies, railroads, bus companies, trucking companies, vessels transporting passengers or freight in intrastate commerce, and pipeline companies. The PUC also has some safety jurisdiction over cable television facilities and designated rapid transit systems.

Safety for the public and for utility employees is a major responsibility of the Commission. Included are a variety of operations from overhead power and communication lines to gas facilities. Also of concern are the environmental impacts of utility construction and operations. In addition the Commission requires regulated truck and bus operators to maintain a minimum amount of public liability and property damage insurance to protect the public.

A regulated utility may not increase any rate or charge without PUC authorization. The PUC sets rates by estimating a utility's reasonable expenses and adding a "fair and reasonable" *rate of return* on its investment. No utility, however, is guaranteed any profit, merely a reasonable opportunity to earn one.

To assure that the utility's management decisions take the public interest into account, the Commission must authorize transfer of utility property; issues of stocks and bonds; and, in some cases, construction or extension of plant or other facilities. The Commission requires utilities to use uniform accounting systems and file annual reports. These annual reports are open to the public for inspection.

The PUC acts in both a judicial and legislative capacity. Like a court, it may take testimony; issue decisions and orders; cite for contempt; and subpoena witnesses or records. Its major legal duty, however, is to regulate privately owned utilities and to secure adequate services, at reasonable rates, both to utility customers and shareholders. Any unauthorized deviation from the Commission's established rates is prohibited by law.

WHAT THE COMMISSION DOES

The Commission essentially has four types of proceedings:

APPLICATIONS—for rate increases, *Certificates of Public Convenience and Necessity* or other operating authority, *Security Issues* (stocks, bonds, etc.), certain *Tariff* changes, and *Deviations* from any of the Commission's rules or regulations.

COMPLAINTS—by individuals or groups against a regulated utility or transportation company.

ORDERS INSTITUTING INVESTIGATION (OIIs)—investigations initiated by the Commission to examine specific issues that may lead to legislation, rate revisions, changes in rules or policies, or adoption of new programs.

ORDERS INSTITUTING RULEMAKING (OIRs)—proceedings establishing general rules for public utilities.

HOW THE COMMISSION SETS RATES

The Commission sets rates in three major ways: through *general rate cases*, through *offset* proceedings—both of which result from *applications* filed by the utilities—and through *Advice Letter* filings.

General Rate Cases

When a utility files an application for a general rate increase, it selects a *test year* in the future on which to base its financial projections and determines what its *revenue requirement* will be in that year.

Traditionally, general rate cases have been the major regulatory proceedings, because in these cases the Commission takes a thorough, in-depth look at the utility's financial picture. It examines quality of service, prudence of management decisions, effectiveness of conservation programs and many other factors. General rate applications for major utilities may be filed every two years and take about a year to complete. In the process, the Commission must set rates which are fair both to consumers and to utility stockholders (which means thousands of individuals, and indeed most of us, since utility stocks are purchased by pension funds, universities, insurance companies and other large institutional investors).

To do this, the Commission first establishes the utility's *rate base;* that is the value of the utility's plant and equipment devoted to public use. Generally the rate base is calculated by adding up the original cost of all the power plants, telephone exchanges, gas pipelines, etc. and then subtracting the accumulated *depreciation.* Depreciation is the amount a utility can deduct each year from the value of its plant and equipment, recognizing that the value declines with each year of its use, just as a new car depreciates in value each year. The equipment included in a company's rate base is financed through private means—by shareholders and lending institutions. It is on that rate base that the utility has an opportunity to earn a rate of return. It recovers the depreciation through an allowance for depreciation expense.

The rate of return is expressed as a percentage of the rate base. It includes the interest on borrowed funds, plus dividends on preferred stock and a reasonable allowance for a *return on equity* (common stock). At present, the Commission is allowing utilities rates of return that range between 9% and 12%.

Next, the Commission determines the estimated operating expenses it will approve for the utilty. These include wages, taxes, supplies, depreciation and other ongoing expenditures. The company may not include certain items in operating expenses, however. Among these are the cost of informative newsletters sent with utility bills, lobbying activities, institutional advertising, dues in civic organizations and charitable contributions. These must be paid for by the shareholders and cannot be charged to ratepayers.

At this point the Commission has arrived at the utility's annual gross revenue requirement expressed in dollars. The gross revenue requirement is the amount the company is entitled to receive—the total of its rate of return on rate base, plus its allowed operating expenses, including taxes.

Does this mean the utility is guaranteed a profit? No, it only means that the company is entitled, through prudent management and efficiency, to recover the approved revenues and to try to earn the authorized rate of return.

The final step is deciding how the rate increase should be applied to the utility's various classes of customers—residential, agricultural, commercial, industrial, wholesale, and sub-classes within each. This *rate spread* may be applied equally, for instance by a 10% increase for each category, or by a uniform cents per unit—per *therm, kilowatt-hour (kWh),* or cubic foot. In a general rate case, the PUC weighs many factors in arriving at a rate spread, such as what it costs to serve each class, the value of the service to the customer, the ability to switch to an alternate service (as from natural gas to fuel oil), the ability to pay, and conservation incentives.

Energy Cost Offset Proceedings

While most elements of ratemaking can be predicted in a general rate case, a few can change substantially between general rate cases. This is particularly true today in the energy field where the cost of oil and natural gas have been rising sharply at rates difficult to predict. Offset procedures have been designed to enable utilities to keep pace with such rapidly rising costs, in the intervals between general rate cases, by granting rate increases to offset increases in those costs.

The Public Utilities Code requires the use of *balancing accounts* to make certain that the utility recovers through rates the exact amount of the increase in expenses that it has experienced—no more, no less.

The most common types of offsets relating to energy utilities have developed acronyms such as *ECAC* in the electric industry and *PGA* and *SAM* in the gas industry.

ECAC stands for *Energy Cost Adjustment Clause,* which is intended to reflect changes in the cost of fuel used to generate electricity. Under ECAC, a utility may file for a rate adjustment three times a year, based on the estimated cost of fuel that will be used to produce electricity during the next four-month period. In estimating the cost of fuel to produce electricity, the Commission considers the types of fuel (e.g. oil, natural gas, geothermal, nuclear, etc.) and to the "mix", i.e., the percentage of each type of fuel that will be used. If the actual cost of fuel is more than the estimated cost recovered through customer billings during this time, the utility is said to have *undercollected.* The undercollection is entered in a balancing account, to be recovered through higher rates during a later period. If the actual cost of fuel for the period is less than the estimated cost recovered through customer billings, the utility is said to have *overcollected.* The overcollection likewise would be recorded in the balancing account and written off through lower rates during a later period.

A comparable adjustment is made for natural gas utilities. The difference between the estimated price that would be paid for gas purchased by the utility during a test period and the actual price is referred to as a *Purchased Gas Adjustment* or PGA.

In addition to variations in the price of gas, a utility may also experience changes in the volume of gas sold during a given period (due to unusually cold or warm winters, effective conservation efforts, availability of gas supplies, or other factors). In a general rate proceeding the Commission estimates the dollar volume of gas sales and the cost of gas sold. The difference between these amounts is referred to as gas margin. A *Supply Adjustment Mechanism* (SAM) is used to account for differences between the estimated gas margin and the actual gas margin.

If sales volume is higher than expected, the utility will overcollect from its customers. When sales are lower than expected, it will undercollect revenue from its customers. Overcollections and undercollections for SAM and PGA are evened out in a future period through the use of balancing accounts in the same manner as for ECAC overcollections and undercollections. The combination of PGA and SAM is referred to as *CAM (Consolidated Adjustment Mechanism)* by Southern California Gas Company, and as *GAC (Gas Adjustment Clause)* by Pacific Gas and Electric Company.

Advice Letters

Under certain circumstances, a utility may make changes in its rates or services by filing those changes in an Advice Letter. Advice Letter filings usually involve changes which do not require public hearings.

HOW THE COMMISSION GRANTS AUTHORITY

Certificates of Public Convenience and Necessity

Before a public utility begins operations or makes significant additions to its plant, it is generally required to apply for and obtain a *Certificate of Public Convenience and Necessity (CPCN).* This is to ensure that no plant facilities are built, or transportation services begun, that the public does not need.

The standard for "Public Convenience and Necessity" is not specifically defined by statute. The Commission has broad discretion to grant or deny these applications.

An application for a certificate must be filed with the Commission in accordance with its *Rules of Practice and Procedure.* The applicant must provide the Commission with certain information. It should demonstrate: (1) that the public welfare would be served; (2) that the operation is financially sound and able to provide the proposed service; and (3) that the project, with the exception of highway transportation service, would not unreasonably interfere with the operation of a nearby or competing public utility. Since applicants are also subject to the California Environmental Quality Act (CEQA) an environmental impact statement may be required.

Security Issues

A public utility must receive PUC authorization before it may issue stocks, bonds, or other securities; sell, transfer, lease, or encumber utility property; or assume liability when acquiring control of a public utility. Commission authorization must be obtained by any party seeking to acquire control of a public utility through acquisition of its securities.

Financial experts on the Commission staff review each application for such authorization and prepare a study of the effect of the proposal on the utility's financial situation. This is considered by the Commission in its decision-making process, which may include a public hearing where utility and staff witnesses testify and may be cross-examined. Such a hearing is always held when a utility is asking for an exemption from the *competitive bidding rule.*

Tariff Changes (e.g. rate increases)

In addition to the formal proceedings discussed above, much of the Commission's work is related to tariff filings submitted by the utilities. These filings are generally made to do one of the following:

1. To initiate a new service.
2. To change rates to reflect cost changes.
3. To modify rules governing the provision of service, rendering of bills or similar items.
4. To withdraw a service.

Such tariffs require specific Commission authorization based on a showing by the utility. In most instances, if there are no protests and the Commission determines that the changes are reasonable, such authorization is granted without a hearing.

HOW THE COMMISSION HANDLES COMPLAINTS

Regulated utilities are required by law to provide reasonably adequate utility service at rates authorized by the Commission. When such service is not provided or there is a dispute over charges for the service, a complaint can be made by any individual or group.

Procedures for filing complaints against utilities under Commission jurisdiction are: first, for the customer to try to resolve the matter with the utility; second, to bring the matter to the Commission staff for an informal resolution; and third, if the first two fail, to file a formal complaint before the Commission.

Informal Complaints

The informal complaint process is used to arrive at a settlement without resorting to the more costly and time-consuming formal complaint procedure. Consumers may bring their questions or complaints to the Consumer Affairs Branch (CAB) or, for transportation matters, to the Transportation Division. Addresses and telephone numbers of each are:

In Northern California:
(Consumer Affairs Branch or Transportation Division)
California Public Utilities Commission
State Building
350 McAllister
San Francisco, CA 94102
(415) 557-0350—Utility Complaints
(415) 557-2298—Transportation Complaints

In Southern California:
(Consumer Affairs Branch or Transportation Division)
California Public Utilities Commission
State Office Building
107 South Broadway
Los Angeles, CA 90012
(213) 620-2570—Utility Complaints
(213) 620-2432—Transportation Complaints

Although informal complaints may be submitted by telephone it is better to put them in writing. No special form is required, but it is important that statements are complete and clear so the staff is thoroughly informed of all the facts. Copies of bills or letters relating to the dispute should be included.

If the amount of a bill is questioned, a customer may deposit the amount in dispute with the Commission to prevent discontinuance of service. The Commission will not *impound* money for matters such as a rate protest, rules or service complaints, or objections to the sources of energy. In such instances, funds sent to the Commission are simply returned to the sender.

After review of the customer's complaint, the utility's position, the utility's rates and rules compliance, and analysis of data such as meter tests, meter reading logs, bills, voltage charts, statements of account, etc., the staff issues an opinion. The staff will notify each party of its findings and send any impounded money to the customer, and/or the utility.

A customer who is not satisfied with the staff's opinion may file a formal complaint with the Commission.

Formal Complaints

A formal complaint may be made to the Commission by any individual, corporation, or other organization. *Complainants* must state a cause of action, which can be any action that violates any provision, law, order, or rule of the Commission.

Complaints about the reasonableness of rates can be made only by political subdivisions or by groups of 25 or more customers or potential customers.

A formal complaint has a narrow scope. The customer must complain about matters within the Commission's jurisdiction. For example, the Commission can order a refund if it determines that a utility has overbilled a customer. It can also order reparation if a service which has been paid for has not been provided. However, the Commission cannot award damages for claims such as personal injury, property damage, emotional distress, or loss of wages or profits. A customer must go to court to recover damages.

Complaints brought before the Commission are processed in much the same manner as a civil action before a trial court. The PUC has a procedure, similar to a small claims court, for cases involving less than $750. These cases are handled under the *Expedited Complaint Procedure (ECP)*.

The ECP provides that a hearing, without a court reporter or legal counsel, is held within 30 days after the utility's answer to the complaint is filed. There is no pleading, other than the complaint and answer, and the parties represent themselves as in a small claims court. However, either party may petition for reversal of the judgment.

Although a formal complaint is usually heard by an *administrative law judge (ALJ)*, the Commission makes the final decision.

HOW THE COMMISSION INITIATES FORMAL ACTION ON ITS OWN

Orders Instituting Investigation (OII)

OIIs are investigations opened by the Commission to explore broad policy issues, resolve procedural issues, investigate charges of improper or illegal activity by a regulated utility or transportation company, or respond to directives from the Legislature.

OIIs name one or more utilities as respondents and usually require them to take specific action (e.g. file data on a particular subject or respond at hearings to matters specified in the order).

Orders Instituting Rulemaking (OIR)

These investigatory proceedings are instituted by the Commission to consider rules or guidelines that affect more than one utility. Comments and proposals are submitted in written form. Oral arguments or presentations are sometimes allowed. The process is similar to the way federal agencies conduct rulemaking.

The PUC's decision is often reflected in a *General Order* which is published and available at the PUC's offices in San Francisco and Los Angeles.

HOW THE DECISION-MAKING PROCESS WORKS

Public Hearings

The four types of proceedings previously described—applications, complaints, investigations, and rulemaking—may all involve public hearings.

When a major utility seeks a *general rate increase*, it tenders a *Notice of Intent (NOI)* with the PUC. This contains working data in support of its eventual application. When the Commission staff accepts these documents as complete, the filing is then formally accepted by letter from the executive director. An application is filed 30 days later.

General rate increase applications for the major utilities are processed under what is known as the *Regulatory Lag Plan* which establishes a timetable for the various parties to accomplish certain things so that a decision can be made about a year after the application is filed.

In all formal proceedings, one of the PUC's five commissioners is assigned ultimate responsibility for steering the case through its processing and an administrative law judge (ALJ) is named to conduct public hearings, advise the assigned commissioner of major developments and issues, and prepare a recommended decision for Commission consideration. Other participants from the PUC staff generally include an attorney, a project manager, and witnesses who are experts in varous fields.

At the outset, the Commission may schedule a *prehearing conference*, to which all known interested parties are invited. These may include consumer groups; farm associations; business, commercial and industrial groups; local, state and federal agencies; and other utilities. Each may make an *"appearance"* as a *"protestant"* or an *"interested party,"* concerned with the interests of the group he or she is representing.

At the prehearing conference, each party will announce the extent to which it will participate in the hearings. The party must identify the issues it will raise and may be required to announce whether it plans to present *evidence*, cross-examine witnesses, and submit *briefs*. When the ALJ has an estimate of how much time each of the parties and the PUC staff will need, hearing dates and places are scheduled along with deadlines for the parties to submit and exchange their prepared testimony and exhibits.

In general rate increase applications and in other cases of wide public interest hearings designed to elicit comment from members of the public are often scheduled prior to regular evidentiary hearings. They are often scheduled in the evening and within the service territory of the requesting utility to accommodate the interested public. Representatives of the utility and staff attend to explain and comment on the request. Individuals wishing to do so may then testify under oath or make unsworn statements regarding the issues.

When the Commission sets a matter for hearing, the date, time, and location of the hearing appear on the Commission's *Daily Calendar*. Notice is also sent to all parties known to be interested. News releases may be distributed to the media. In applications for general rate increases, the law requires utilities to send notices of the application to all customers. In the other types of rate increase applications, the Commission requires that notice of the application be printed in newspapers of general circulation and posted in the utility's business office.

Hearings are generally held in the Commission courtrooms in San Francisco and Los Angeles. They are recorded by a court reporter, and transcripts may be purchased from the Commission. File copies of transcripts are available for public inspection in the PUC's San Francisco and Los Angeles offices.

Parties who wish to participate may represent themselves or be represented by another. Parties may cross-examine witnesses, present witnesses, file briefs and apply for rehearing after a decision has been made. Persons wishing only to testify need not file an appearance.

In hearings of complaints, applications or petitions, the complainant, applicant, or petitioner, who has the burden of proof, presents his case first.

Evidence at a hearing can be given through written documents, *exhibits*, or oral testimony by witnesses. In addition, the Commission may take statements from the general public or other persons interested in the proceedings. A *statement* is recorded by the court reporter and appears in the transcript. However, since it is not made under oath or subject to cross-examination, it has less weight than sworn testimony. Oral *testimony* is given under oath and is subject to cross-examination.

At the conclusion of testimony, the Commission may hear arguments in support of the various parties' positions. An argument may take the form of a closing statement made before the ALJ or commissioner on the last day of hearing; or the Commission may have oral argument *en banc*, which means that several commissioners hear the argument. A third form of argument, and the most common, is through briefs. These are written documents summarizing the position of the parties based on the factual evidence presented.

The Decision

After the formal proceedings, the ALJ prepares a draft decision and submits it to the assigned commissioner. This draft or any alternates are not available to utilities or the general public except when formally issued as a *proposed report*. A proposed report is sent to all parties, and a deadline—usually 15 days—is set for comments and another 15 days for replies to those comments. The Commission reviews all other draft decisions for technical accuracy and for conformity to Commission policy. The draft decision is then placed on the *agenda* for its next conference. If the assigned commissioner in the proceeding and the ALJ differ on the resolution of the matter, alternate proposed decisions will be placed before the full Commission for consideration.

Commission conferences, the decision-making business meetings of the Commission, are held approximately every two weeks and are open to the public. The dates and location of the next three conferences are shown on the PUC Daily Calendar. At the conference, if three or more commissioners sign the proposed decision, it becomes the *formal decision* of the Commission. It is given a decision number, and a copy is sent to all parties who participated in the proceeding.

Rehearing and Review

Any decision or order of the Commission is subject to both administrative and judicial review upon written request of a party. If the Commission denies review (rehearing), the requesting party may ask the California Supreme Court to review the decision. That court is the only state court which has the power to review the Commission's actions.

SPECIAL NOTE

In our effort to describe the functions of the California Public Utilities Commission, we have used energy utilities as the primary illustration for two reasons.

First, by relying on energy utilities for our illustrations, we can cover all the major procedures of the PUC, while other utility types would not be as comprehensive.

Second, utilities which provide electricity and natural gas to California consumers—the energy utilities—are those about which the most questions are being asked in the 1980s. With few exceptions, energy rates are increasing much faster than those of water, communications, or transportation, which are staying at or below the general inflation rate throughout the state.

A major part of the Glossary which follows describes terms used in connection with the regulation of nonenergy utilities and transportation companies. Many of these terms did not appear in the body of this handbook.

GLOSSARY

A

Above the line—A term referring to operating revenues and operating expenses recorded above the *net operating income* line in a utility's income statement. Above the line operating expenses include operation and maintenance expenses, depreciation expenses, general and administrative expenses, and taxes. Excluded are interest payments, interest income, contributions and other nonutility expenses which are "below the line" items on an income statement. (See *Below the line*, and *net operating income)*

Accelerated Depreciation—An accounting method which permits a utility to depreciate its property for tax purposes faster in the early years of its expected life, thereby reducing the company's tax liability in those years.

Administrative Law Judge (ALJ)—A Commission staff member who serves as a hearing officer at formal PUC proceedings. He or she may conduct public hearings, issue subpoenas, question witnesses, and prepare a draft decision and order for the Commission's consideration.

Advice Letter—A filing by letter made by a utility to change rates or services. An Advice Letter filing usually does not require public hearings. (See Page 8)

AFUDC (Allowance for Funds Used During Construction)—A percentage amount added to Construction Work in Progress (CWIP) to compensate the utility for funds used to finance new plant under construction prior to its inclusion in rate base. The AFUDC rate is based on the net cost of borrowed funds used for construction and a reasonable allowance for equity funds when so used. AFUDC is sometimes known as Interest During Construction (IDC). (Also see *Construction Work in Progress, CWIP)*

Agenda—The notice of business the Commission will consider at its formal decision-making conference.

Appearance—One who has become a party to a formal proceeding before the Commission by submitting an appearance form to the ALJ at the time of hearing. The appearance may present evidence, cross-examine witnesses, sponsor witnesses, file briefs, and appeal any resulting PUC decision.

Applicant—A person or utility filing a formal application with the Commission, seeking permission to do something.

Applications—One of several types of proceedings through which the Commission develops decisions and policies.

Average cost pricing—Pricing units of energy consumed on average production costs. Average cost contrasts with *Marginal Cost.*

Average load—The total supply for the period divided by the hours in the period. (See *Load Factor)*

B

Backhaul—Any paying cargo hauled by a carrier on a return trip after a load of cargo has been delivered.

Balancing Account—A clearing account in which is recorded a specific type of utility expense, such as purchased gas, together with revenues intended to equal the expense. If revenues exceed the expense, the utility is said to have overcollected, and rates are reduced in a subsequent period to eliminate the overcollection. If the expense exceeds the revenue the utility is said to have undercollected, and rates are increased in a subsequent period to offset the undercollection. (See Page 6)

Barrel of oil—Equivalent to 42 U.S. gallons. The *Btu* content of a barrel of crude petroleum is about 6,160,000 Btu's.

Bell System—Another name for the American Telephone and Telegraph Company (AT&T), which consists of 23 operating telephone companies; Western Electric Company; Bell Laboratories; and the Long Lines Department which operates the interstate and overseas communications links.

Below the line—All income statement items of revenue and expense not included in determining *net operating income* for ratemaking purposes. If the item is recorded below the net operating income line of the income statement, it is labeled a "below the line" item (e.g. interest expense, charitable contributions, etc.).

Bill of lading—A nonnegotiable written transportation agreement between shipper and carrier (or their agents).

Brief—A document citing all facts and points of law relied on by a party in a formal proceeding. It is filed at the conclusion of the proceeding.

Btu (British thermal unit)—The amount of heat required to raise the temperature of one pound of water one degree Fahrenheit. A unit frequently used to measure energy.

Bulk freight—Freight not in packages or containers.

C

CAB—An acronym for the PUC's Consumer Affairs Branch. Also used for the federal Civil Aeronautics Board.

CAM (Consolidated Adjustment Mechanism)—A term used by Southern California Gas Company to describe a combination of SAM and PGA. (See Page 7)

Capital intensive—A condition in which a relatively large dollar investment is required to produce a dollar of revenue. An average electric utility, for example, has an investment of about $4.00 for each dollar of revenue generated annually and is therefore considered highly capital intensive.

Capital structure—The composition of a corporation's invested capital as divided between equity (investors' money) and debt (borrowed money).

Certificate of Public Convenience and Necessity (CPCN)—An authorization granted by the Commission to construct or expand a facility or to begin operations.

Class of Service—A category of customer. Classes of service include residential, industrial, commercial, municipal and utility service. For residential service there may be a number of classes, depending on how the gas or electricity is used. The same may be true for other types of service.

Cogeneration—The sequential production of electricity, steam or useful work from the same fuel source, such as the generation of electricity using waste heat from an industrial process.

Common Carrier—Any person or company which unequivocally dedicates to the general public the equipment and property used to perform transportation. Common carriers must accept all business offered to them at posted rates, and are regulated for interstate commerce by the Interstate Commerce Commission, as well as by a state commission in intrastate commerce. The term is also used in the communications industry and is defined as "any person engaged as a carrier for hire, in interstate or foreign communication, by wire or radio."

Competitive Bidding Rule—A Commission requirement that a utility publicly invite competitive bids from financial institutions wishing to buy (for resale) the utility's security issue.

Complainant—A person or group who files a complaint charging a violation of a law, order, tariff or rule of the Commission by a utility.

Complaint—A charge by any person that a utility or transportation company under PUC jurisdiction has violated the Public Utilities Code or an order or regulation of the Commission.

Conference—A business meeting of the Commission open to the public, where proposed decisions may be discussed and voted upon. (See Page 2)

(CWIP) Construction Work In Progress—Plant (e.g. new generating plant, telephone exchange, transmission line, distribution line, central office, etc.) which is under construction by a utility but not yet in service. The PUC historically has not allowed such plant to be included in a utility's rate base. When construction is completed, the balance in the CWIP account is transferred to the appropriate plant accounts and then included in rate base. (Also see Allowance For Funds Used During Construction, AFUDC)

Contract Carrier—A person or company engaging in for-hire transportation of property under individual contract or agreement with one or a limited number of shippers.

Contributions in Aid of Construction—Nonrefundable donations or contributions in cash or properties from individuals, governmental agencies or others for constructn or property additions. The utility may not earn a return on contributions.

Cost-based pricing—A method of setting rates based on the cost to the utility to provide that particular service.

Cost of capital—The combined cost of interest on borrowed money, preferred stock dividends and an allowance for common stock earnings needed to provide the facilities used in supplying utility service.

Cost of service—The total cost of providing utility service. The cost components include operating expenses, depreciation, taxes and a rate of return adequate to service investment capital. Cost of service is synonymous with the revenue requirements of the system.

(CVR) Conservation Voltage Regulation—A two-stage conservation program begun in 1977 in which the Commission ordered electric utilities to reduce maximum service voltage output from 126 to 120 volts.

Cycle billing—The process of reading a segment of a system's meters and billing that portion of its customers each day of a billing period. By the end of the cycle, the complete system is read and billed, and a new cycle begins.

D

Daily Calendar—A listing of new filings, Commission conferences, Commission decisions, and the date, time and location of all hearings. The public may subscribe to the Daily Calendar on a daily or weekly basis.

Declining Block Rate—A rate structure which provides for lower prices per unit of usage as usage increases from block to block. These rate structures are now considered unsatisfactory because they encourage increased (rather than decreased) consumption.

Defendant—The entity, usually a utility, charged in a complaint proceeding with violating the Public Utilities Code or an order or regulation of the Commission.

Deferred Fuel Costs—Those fuel costs incurred in one accounting period which are not reflected in billings to customers until a later billing period (used in energy cost offset balancing accounts).

DEIR (Draft Environmental Impact Reports)—Draft version of the report put out by the Environmental Impact Branch which evaluates the impact on the environment of a proposed project for which a public utility has applied.

Department of Energy (DOE)—The federal agency responsible for energy policy.

Depreciation—A means of accounting for the wearing out or gradual obsolescence of a utility plant or the process through which facilities such as power plants and office buildings decrease in service value over time. As plant is depreciated an allowance for depreciation expense is made. (See Page 5)

Deregulation—The removal of governmental controls, allowing the free market to determine the availability and cost of a service.

Deviation—Authority formally granted by the Commission to depart from established rates or service requirements.

Distance Table—A directory of "constructive" mileages between points in California. These mileages take into consideration actual mileage, road and traffic conditions and bridge tolls.

Dry Gas—Gas produced from wells which do not contain liquid hydrocarbons.

E

ECAC—Energy Cost Adjustment Clause—A procedure whereby an electric utility periodically adjusts its rates to offset changes in the cost of fuel used to produce electricity. (See Pages 6 and 7)

ECABF—Energy Cost Adjustment Billing Factor—The billing surcharge (positive or negative) used to recover energy costs in rates.

En banc—The commissioners sitting as a group in formal session, usually to listen to oral argument in a proceeding.

ESLAB—Emergency Spanish Language Assistance Bureau. A telephone facility to assist Spanish-speaking telephone subscribers in making emergency calls.

Evidence—Oral testimony, written documents or physical objects included in the record of a formal proceeding.

Exempt Carrier—A carrier whose rates are not regulated by the Commission. This may be because of legislative action (e.g. emergency vehicles) or Commission decision (e.g. log carriers).

Exhibit—A physical object, usually in writing, offered as evidence at a hearing.

Ex Parte—A Commission order or decision issued without a public hearing. Ex Parte orders are appropriate when it is clear that the application has no serious opposition. The term is also used to describe contacts between a party to a proceeding and the assigned commissioner or ALJ outside of the hearing, in an attempt to influence the outcome of the proceeding. Such contacts are improper.

Expedited Complaint Procedures—(ECP)—A procedure for quickly handling formal complaint cases involving less than $750. The ECP ensures a hearing, without a court reporter, within 30 days after an answer to the complaint is filed. There is no pleading—other than the complaint and the answer—and the parties represent themselves without counsel. The complaint is heard by an administrative law judge and the final decision is made by the Commission. (See Page 12)

F

FERC—Federal Energy Regulatory Commission—The branch of the Department of Energy which regulates interstate gas and electric rates and facilities.

Final Environmental Impact Reports (FEIR)—The final version of the Environmental Impact Branch report which evaluates the effect of a project for which a utility has applied.

Firm Service—Service, such as residential gas or electric service, offered to customers under schedules or contracts which anticipate no interruptions.

Flow-through of income taxes—An accounting procedure under which income taxes are reported in a company's income statements in the period in which they are incurred. If, as the result of the use of accelerated depreciation in its income tax returns, a utility pays lower income taxes in the earlier years of the life of property, the reduced income tax expense is reported in the utility's income statements in those early years and its revenue needs are likewise reduced. (See *normalization* of income taxes.)

Foreign Exchange Service—A special telephone arrangement whereby a caller, by paying a predetermined monthly charge, can dial and receive calls from a specific distant exchange without toll or message unit charges.

Formal Complaint—A formal charge that a utility, motor carrier or person (the defendant) has violated the Public Utilities Code or some order or regulation of the Commission. The complaint must be in writing, be in accordance with the Commission's Rules of Practice and Procedure and be made under oath. The proceeding ordinarily requires public hearing and a Commission decision.

Formal Decision—A Commission decision on a pending application or case signed by a majority of the commissioners.

Freight Forwarder—A firm which combines small shipments into larger truckload or carload lots. A freight forwarder operates on the margin between cardload or truckload rates and less-than-carload or less-than-truckload rates.

Fuel Adjustment Clause—A tariff clause which permits a utility to offset changes in fuel costs between general rate cases. No longer used in California. (See Pages 6 and 7 for present procedures)

G

Gas Adjustment Clause (GAC)—A term used by PG&E to describe a combination of PGA and SAM. Same as Consolidated Adjustment Mechanism (CAM). (See Page 7)

GEDA (Gas Exploration and Development Adjustment)—The process by which a utility may apply to the Commission for the right to recover the costs of approved gas exploration and development projects through the utility's rates.

General Order—A Commission order which sets standards, procedures or guidelines applicable to a class of utilities, as distinguished from a decision applicable only to a single utility.

General Rate Cases—Cases in which the Commission takes a broad, in-depth look at a utility's revenues, expenses and financial picture and considers quality of service and other factors to arrive at fair rates. These are the major regulatory proceedings before the Commission. (See Page 5)

Generating Plant—A plant where electricity is generated.

H

I

IDC (Interest During Construction)—(See AFUDC)

Impounds—Money deposited with the Commission by a customer who disputes his or her bill, but who wishes to continue utility service. Also called deposits.

Independent Telephone Company—A telephone utility not affiliated with the American Telephone and Telegraph Company (Bell System). As of January 1981, there were 25 independent telephone companies in California.

Informal Complaint—Informal request for assistance made to the Commission with supporting documentation concerning a utility's service, rates or other matters. The staff investigates and tries to arrive at an informal adjustment without public hearing or Commission order. Informal complaint files are not open for public inspection.

Insurance Requirement—The minimum amount of insurance required by the Commission for a motor carrier or other regulated entity.

Interconnect Company—A nonregulated, nonutility firm providing terminal communications equipment to the public in competition with the telephone utilities.

Interested Party—An individual or group appearing in a formal proceeding without declaring, in advance, a position for or against a proposal in question.

Intermodal—The transportation of property by more than one means on one trip (e.g. railroad and truck).

Interruptible Service—Low priority service offered to customers on the condition that there may be interruption on short notice, generally in peak load seasons, in order to serve higher priority users.

Interstate Commerce—Traffic, intercourse, commercial trading, or the transportation of persons or property from any state or territory in the country to another state or territory. (This includes transportation through foreign countries or between two points in one state through another state.)

Interstate Commerce Commission—The federal body that regulates interstate trucking companies, bus lines, and railroads.

Intrastate Traffic—Traffic whose origin, destination and entire transportation route lie within the same state.

Inverted Rates—A rate structure where the cost for each block of energy increases as usage increases.

Investment Tax Credit (ITC)—A provision in the federal tax laws that allows a utility credits against income taxes equal to 10% of its new investment in certain types of plant.

J

K

Kilowatt-hour (kWh)—One thousand watts of electricity acting for one hour. (e.g. The energy ten 100-watt light bulbs consume in one hour.)

L

Lawful Rate—A just, reasonable, and nondiscriminatory rate approved by the Commission.

Lifeline—A program providing lower rates for the first units of gas and electricity used. Equivalent to the minimum electricity and gas needed for certain specified uses by a family of four living in a 1,000 sq. ft. home. This allowance of gas and electricity is available to all residential customers and is a financial incentive to keep usage at or close to the lifeline quantity. "Lifeline" telephone service is available in certain metropolitan areas, providing for a single intrument with an allowance of 30 outgoing calls for the lowest monthly rate. Most water companies also offer lifeline rates.

Liquefied Natural Gas (LNG)—Natural gas cooled to −259°F so that at approximately atmospheric pressure it forms a liquid. As natural gas becomes liquid it is reduced in volume nearly 600-fold, thus making both storage and long distance transportation more economical.

Liquefied Petroleum Gas (LPG)—A gas containing certain hydrocarbons which are gaseous under normal atmospheric conditions, but can be liquefied under moderate pressure at normal temperatures. Propane and butane are the principal examples of LPG.

Load Factor—The average load of a customer, a group of customers or an entire system, divided by the maximum load. For example, assuming 48 kWh of usage for the day, the average load is 48/24 or 2 kWh. If the maximum capacity available is 4 kW, the load factor is 50%

Load Management—Techniques or actions which shift electricity demands from peak periods to times (off peak) when existing capacity is not fully used.

M

Manufactured Gas—Gas obtained by distillation of coal; cracking petroleum; or by the reaction of steam passing through a bed of heated coal or coke. Examples are coal gases, coke oven gases, producer gas, blast furnace gas, blue (water) gas, and carbureted water gas. Btu content varies widely.

Marginal Cost—The extra cost to produce one additional unit of output in the cheapest possible way.

Mcf—An abbreviation for 1,000 cubic feet.

Minimum Rates—Rates established by the Commission as minimum for highway carriers and published in minimum rate tariffs. When the Commission establishes minimum rates, it is unlawful for a carrier to charge less than the minimum rates unless a deviation has been approved by the Commission.

MRT—Abbreviation designating minimum rate tariffs published by the Commission.

Mutual Water Company—A private organization established to supply water to its members at cost. Mutuals are not regulated by the PUC.

N

Net Operating Income (Results of Operations)—The amount of revenue from utility operations remaining after operation and maintenance expenses, depreciation expenses, and taxes attributed to the utility operation are deducted. The revenues and expenses that produce net operating income are commonly referred to as "above the line" items.

(NOI) Notice of Intent—Preliminary data tendered by a utility in preparation for the formal filing of a general rate increase application. (See page 15)

Nonutility Items—All items of revenue, expense and investment not associated, either by direct assignment or by allocation, with providing utility service.

Normalization of income taxes—An accounting procedure under which a company computes income taxes in its income statements using straight line depreciation, and in its income tax returns using accelerated depreciation. The difference between the two tax amounts is entered in a deferred tax account and is used to reduce income taxes reported in the income statements over the life of the related property. (See *flow-through* of income taxes.)

O

(OCMS) Optional Calling Measurement Service—Telephone service allowing residential customers outside the San Francisco and Los Angeles metropolitan areas to call over specified routes within a 40-mile radius at reduced rates.

Offset—(See Pages 6–7)

Off Peak Service—Service made available on special schedules or contracts on a firm basis but only for a specified time during the off-peak portion of the load cycle.

(OII) Order Instituting Investigation—(See Pages 4 and 14)

(OIR) Order Instituting Rulemaking. (See page 4 and 14)

Operating Ratio—The ratio of operating expenses to operating revenues.

Operating Right—The right granted to for-hire motor carriers to operate over certain routes or within certain areas or territories.

Operating Unit or System—A complete and self-sustaining power generating facility or group of facilities acquired and operated intact as a segment of a complete system.

Original Cost—The actual cost of property to the party who first devoted it to public use as utility property.

ORTS (Optional Residence Telephone Service)—A telephone service allowing residents of the San Francisco, Los Angeles and Orange County metropolitan areas to call within a 40-mile radius at reduced rates. Measured rate service is available either to specific communities or to all communities within a specified circle.

Overcharge—Any rate charged by a public utility or carrier in excess of its authorized tariff rates.

Overcollection—(See Page 7)

P

Peak Demand—The maximum level of operating requirements placed upon the system by customer usage during a specified period of time (instantaneous peak, thirty-minute peak, one-hour peak and one-day peak outputs are common points of reference). it may apply to an operating segment of the company, such as a customer class, or to the entire company, depending on intended use of the data.

Peak Load Pricing—A higher rate charged for a service during a peak demand period. A peak demand period is designated, and customers who use electricity during these hours pay a higher rate than they would during off-peak hours. Peak load pricing is designed to recover the higher costs associated with the less efficient generation used to meet peak demand.

Permit—Authority issued to carriers who by statute are not regulated as public utilities.

Petitioner—Any party who seeks to appeal a Commission decision, modify a proposed decision, or intervene during a Commission hearing.

(PGA) Purchased Gas Adjustment—(See Page 7)

Prehearing Conference—(See Page 15)

Prime Carrier—A certificated or permitted motor carrier that engates other carriers or subhaulers.

Private Line (Leased Line)—A telephone line permitting unlimited service between two points at a special rate and not connected to the regular telephone network. Private lines are available for data transmission and for use as fire and burglar alarm circuits.

Proposed Report—(See Page 17)

Protestant—(See Page 15)

Public Power—An electric utility owned by a government entity such as a municipality or utility district.

R

Radial Highway Carrier—A for-hire motor carrier that formerly operated over regular routes between fixed termini. This class of carrier was eliminated by Senate Bill 860 in 1978, and those carriers converted their radial permits to Contract or Common Carrier authority. (See Section 1063.5 of the Public Utilities Code)

Rate Base—The total of original cost of a utility's investment in operative property presently devoted to public service, minus the amount of accrued depreciation on such property, plus an allowance for working capital, plus or minus certain other items. This investment base is the amount to which the rate of return is applied.

Rate Bureau—An organization of trucking companies gathered to set rates which are then submitted to the Commission for approval. By statute rate bureaus are exempt from California antitrust laws.

Rate of Return—Percentage allowed by the Commission as a fair and reasonable return on rate base. This rate of return may vary with types and sizes of utilties or other circumstances. The utility may or may not actually earn this rate of return, depending upon conditions and its management decisions.

Rate Spread—(See Page 6)

Rate Structure—The various rates charged by a utility for its services.

Regulatory Lag Plan—(See Page 15)

Reserve Margin—The amount of unused capacity (idle capacity) that a utility has at the period of peak demand.

Residual Fuel—A petroleum product burned by electric utilities as boiler fuel to generate electricity. It is composed of products remaining from crude petroelum after an appreciable percent of the more volatile hydrocarbons is removed.

Results of Operation—(See *Net Operating Income.*)

Return—Rate of return times the rate base.

Return on Equity—The profit left to common shareholders after all expenses, interest costs and preferred stock dividends are paid. This amount is generally expressed as a percentage of common equity investment.

Revenue Requirements—The total revenue needed to pay all operating and capital costs of a business.

Rules of Practice and Procedure—The rules governing the way utilities, transportation companies, and the public conduct formal proceedings before the Public Utilities Commission.

S

(SAM) Supply Adjustment Mechanism—(See Page 7)

Scrubber—A device at an electric generating plant to remove air contaminants produced by burning fossil fuels.

Security Issues—(See Page 9)

Separations (Communications)—The cost allocation procedures used in telephone ratemaking to divide a utility's expenses and investment in plant between interstate and intrastate jurisdictions.

Settlement (Communications)—The process by which two or more operating telephone companies divide revenues for jointly provided telephone service.

Shipper—The person or business for whom articles are transported.

SMRT (Single message rate timing)—Pricing local telephone calls on a timed rather than flat rate basis.

Specialized Common Carrier (Communications)—A company offering telecommunications service between two or more points to large volume users, generally using microwave or other advanced technology. SCCs offer high speed, large volume telecommunications services in competition with the Bell System. They generally do not provide local intracity circuits terminating at the customer's premises.

Statement—Unsworn view or opinion offered at a public hearing, made part of the file but not subject to cross-examination. (See Page 16) (Also see *Testimony*)

Subhauler—A motor carrier that provides transportation for another carrier. (See *Prime Carrier*)

T

Tail Blocks—An open-ended rate block specifying the rate for all energy used over the prescribed amount.

Tariff—The documents filed with the Commission by utilities specifying lawful rates, charges, rules and conditions of providing services to the public.

Test Year—A 12-month operating period used to evaluate the cost of service and adequacy of present or proposed rates. Generally used as the basis for general rate case calculations.

Testimony—A declaration, oral or written, given under oath at a public hearing and subject to cross-examination. (See *Statement*)

Therm—A unit of heat equal to 100,000 British thermal units. Natural gas is usually measured in therms rather than cubic feet because gas from different sources may have different heating values.

Times Interest Earned—The number of times that utility income available for interest payments covers its bond interest payments. (Sometimes called "Times Interest Coverage")

Time-of-Use—A rate design that provides lower electric rates for consumers who use energy during off peak hours.

Two Tier—A two-part pricing concept. In communications, the first tier is based on fixed costs of the equipment and remains fixed for a given customer. The second tier reflects variable costs such as wages, maintenance expenses, etc. Two tier is also used to describe a utility rate structure with a lower charge for the first, or lifeline block, and a higher charge for usage over the lifeline allowance. Some gas and electric rates in California are designed with *three tiers* as a stronger conservation incentive.

U

Unbilled revenues—Revenues earned by a utility through sales of energy to customers for which those customers have not yet been billed.

Undercharge—Any transportation charge based on a rate less than that prescribed by the Commission in one of its minimum rate tariffs.

Undercollection—(See Page 7)

V

Value of service—A monetary measure of the usefulness or necessity of utility service to a customer group.

W

WATS (Wide Area Telephone Service—A bulk rate for message toll telephone service offered both on an out-WATS and in-WATS basis. Out-WATS allows a customer toll calling to a specified area at WATS rates instead of toll rates. In-WATS permits any caller from a specified geographical area to call a specific customer who pays the charges at WATS rates.

Wet Gas—Unprocessed or partially processed natural gas containing condensable hydrocarbons.

Working Capital—Amount included in rate base in addition to utility plant. Usually includes (1) fuel inventory, and material and supplies inventory; and (2) an allowance for investor supplied funds (i.e. cash working capital) needed to pay operating expenses during the interval between the time that expenses are incurred and the subsequent period when revenue to cover the expenses is collected.

Z

(ZIP) Zero Interest Program—A program to provide loans, without interest, to residential customers to insulate or weatherize their homes.

ZUM (Zone Usage Measurement)—A method of pricing local calls and interexchange calls up to 16 miles between rate centers in the San Francisco and Los Angeles areas. Messages are timed in one-minute increments. Evening and night discounts of 35% and 60% apply.

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